The Oil and Gas Journal

PRODUCING REFINING ENGINEERING MARKETING

VOL. 29. NO. 16. TULSA, OKLAHOMA, SEPTEMBER 4, 1930

Copyright, 1930, by The Petroleum Publishing Co.

Table of Contents

SPECIAL ARTICLES

Crude Stocks Below Last Year's Level 35
By Andrew M. Rowley
Improvement in statistical position shown by Government report. Greater gasoline stocks a weakening influence.

Mergers Changing Refinery Situation 37
By C. O. Willson
New organizations passing the old with additional consolidations in prospect.

Installation of Oil and Gas Separators 38
By E. H. Adams
Depends on specific operation and conditions.

Effects of Tubing Flowing Wells 38
By H. C. Hardison
Great deal of study of individual well conditions needed.

Temperature Ratings for Gasolines 39
Users of aviation motor fuels suggest new specifications.

Bureau of Mines Report for July 39

Principles Involved in Hydrogenation 40
By Dr. C. K. Francis
Process first practised for hardening vegetable and mineral oils.

Merger of Phillips and Independent 40
Important companies dominated by three brothers.

Rivalry in Irak May Flood Market 41
By A. E. Mockler
King Feisal seeks formation of new company.

Spanish Company Buys in Venezuela 41
By A. E. Mockler
Ambitious project to aid the government monopoly.

Advantages of Insulation on Boilers 42
By W. H. Meier
Important form of operating economy often disregarded.

Reasons for Mergers (Editorial) 44

Fractional Analysis of Mixtures 46
By W. M. Schaufelberger
Development of apparatus for plant control.

Active Oil Men Before Camera 68

Pipe Line Construction News 74

Deep Development in Big Lake Field 76
By Melvin J. Collins and Joe W. Folk
Much of work experimental in character.

Field Problems and Their Solution 90
Edited by Thomas F. Smiley

List of Osage Sale Tracts 116

Automotive Transportation Committee Meets 151

Texas Proration Plan Modified 152

Oklahoma Limit Extended One Month 154

FIELD OPERATIONS

Late Fields 48

Oklahoma 50
By W. A. Spinney

Kansas 52
By W. A. Spinney

North Louisiana-Arkansas 54
By D. H. Bancroft

Southwest Texas 55
By B. D. Stevenson

Gulf Coast 59
By Neil Williams

Rocky Mountain Area 61
By Tolbert R. Ingram

California 63
By L. P. Stockman

Canada 64
By Victor Lauriston

West Texas 71-176
By L. E. Bredberg

North Texas and Panhandle 72-176
By L. E. Bredberg

East Central Texas 115
By L. E. Bredberg

Central West 82
By Whit

Tennessee 82
By Whit

Eastern Fields 85
By Special Correspondent

Kentucky 85
By Whit

REFINING AND MARKETING

Oklahoma Refiners Advance Prices 36
By C. O. Willson
U. S. Motor gasoline no longer available at low prices prevailing in August. Kerosene and distillate more active.

Technical Questions Answered 102
By Dr. C. K. Francis

Prices May Improve in September 136
By J. B. Waldo

Irregular Market Continues in East 137
By A. E. Mockler

Natural Gasoline Manufacture 139

Brief Items for Petroleum Refiners 140

Refinery and Crude Prices 142-143

Tank Wagon Quotations 144

Of Interest to Sales Departments 156

ARTICLES OF GENERAL INTEREST

The Advertisers' Index 33

Natural Gas Industry Developments 86

Oil Field Equipment and Supplies 92-96

Personal Paragraphs About Oil Men 98

California Field Operations for July 107

Classified Want Advertisements 134-135

Oil Securities Market 146-147

Crude Petroleum Statistics 186

BRANCH OFFICE CORRESPONDENTS

D. H. Bancroft, 538 Ricou Brewster Building, Shreveport, La.
L. E. Bredberg, 610 Petroleum Building, Fort Worth, Texas.
Paul A. Elliott, Chronicle Office. Muskegon, Mich.
Tolbert R. Ingram, 130 State Office Building, Denver, Colo.
Charles E. Kern, 602 Albee Building, Washington, D. C.
Victor Lauriston, Box 136, Chatham, Ontario, Canada.
B. E. V. Luty, Bessemer Building, Pittsburgh, Pa.
A. E. Mockler, Rooms 1919-21, No. 154 Nassau Street, New York, N. Y.
B. D. Stevenson, 1504 Milam Building, San Antonio, Texas.
L. P. Stockman, 522 Union Oil Building, Los Angeles, Calif.
F. B. Taylor, Box 994, Casper, Wyo.
John B. Waldo, Room 1416, No. 6 North Michigan Blvd., Chicago, Ill.
Leon H. Walter, Oil City Derrick, Oil City, Pa.
George A. Whitney, Box 98, Main Postoffice, Toledo, Ohio.
Neil Williams, 1316 Second National Bank Building, Houston, Texas.

Refinery Section Starts on Page 136

The Oil and Gas Journal

PRODUCING REFINING ENGINEERING MARKETING

VOL. 29. NO. 16. TULSA, OKLAHOMA, SEPTEMBER 4, 1930

Copyright, 1930, by The Petroleum Publishing Co.

Table of Contents

SPECIAL ARTICLES

Crude Stocks Below Last Year's Level 35
By Andrew M. Rowley
Improvement in statistical position shown by Government report. Greater gasoline stocks a weakening influence.

Mergers Changing Refinery Situation 37
By C. O. Willson
New organizations passing the old with additional consolidations in prospect.

Installation of Oil and Gas Separators 38
By E. H. Adams
Depends on specific operation and conditions.

Effects of Tubing Flowing Wells 38
By H. C. Hardison
Great deal of study of individual well conditions needed.

Temperature Ratings for Gasolines 39
Users of aviation motor fuels suggest new specifications.

Bureau of Mines Report for July 39

Principles Involved in Hydrogenation 40
By Dr. C. K. Francis
Process first practised for hardening vegetable and mineral oils.

Merger of Phillips and Independent 40
Important companies dominated by three brothers.

Rivalry in Irak May Flood Market 41
By A. E. Mockler
King Feisal seeks formation of new company.

Spanish Company Buys in Venezuela 41
By A. E. Mockler
Ambitious project to aid the government monopoly.

Advantages of Insulation on Boilers 42
By W. H. Meier
Important form of operating economy often disregarded.

Reasons for Mergers (Editorial) 44

Fractional Analysis of Mixtures 46
By W. M. Schaufelberger
Development of apparatus for plant control.

Active Oil Men Before Camera 68

Pipe Line Construction News 74

Deep Development in Big Lake Field 76
By Melvin J. Collins and Joe W. Folk
Much of work experimental in character.

Field Problems and Their Solution 90
Edited by Thomas F. Smiley

List of Osage Sale Tracts 116

Automotive Transportation Committee Meets 151

Texas Proration Plan Modified 152

Oklahoma Limit Extended One Month 154

FIELD OPERATIONS

Late Fields 48

Oklahoma 50
By W. A. Spinney

Kansas 52
By W. A. Spinney

North Louisiana-Arkansas 54
By D. H. Bancroft

Southwest Texas 55
By B. D. Stevenson

Gulf Coast 59
By Neil Williams

Rocky Mountain Area 61
By Tolbert R. Ingram

California 63
By L. P. Stockman

Canada 64
By Victor Lauriston

West Texas 71-176
By L. E. Bredberg

North Texas and Panhandle 72-176
By L. E. Bredberg

East Central Texas 115
By L. E. Bredberg

Central West 82
By Whit

Tennessee 82
By Whit

Eastern Fields 85
By Special Correspondent

Kentucky 85
By Whit

REFINING AND MARKETING

Oklahoma Refiners Advance Prices 36
By C. O. Willson
U. S. Motor gasoline no longer available at low prices prevailing in August. Kerosene and distillate more active.

Technical Questions Answered 102
By Dr. C. K. Francis

Prices May Improve in September 136
By J. B. Waldo

Irregular Market Continues in East 137
By A. E. Mockler

Natural Gasoline Manufacture 139

Brief Items for Petroleum Refiners 140

Refinery and Crude Prices 142-143

Tank Wagon Quotations 144

Of Interest to Sales Departments 156

ARTICLES OF GENERAL INTEREST

The Advertisers' Index 33

Natural Gas Industry Developments 86

Oil Field Equipment and Supplies 92-96

Personal Paragraphs About Oil Men 98

California Field Operations for July 107

Classified Want Advertisements 134-135

Oil Securities Market 146-147

Crude Petroleum Statistics 186

BRANCH OFFICE CORRESPONDENTS

D. H. Bancroft, 538 Ricou Brewster Building, Shreveport, La.
L. E. Bredberg, 610 Petroleum Building, Fort Worth, Texas.
Paul A. Elliott, Chronicle Office. Muskegon, Mich.
Tolbert R. Ingram, 130 State Office Building, Denver, Colo.
Charles E. Kern, 602 Albee Building, Washington, D. C.
Victor Lauriston, Box 136, Chatham, Ontario, Canada.
B. E. V. Luty, Bessemer Building, Pittsburgh, Pa.
A. E. Mockler, Rooms 1919-21, No. 154 Nassau Street, New York, N. Y.
B. D. Stevenson, 1504 Milam Building, San Antonio, Texas.
L. P. Stockman, 522 Union Oil Building, Los Angeles, Calif.
F. B. Taylor, Box 994, Casper, Wyo.
John B. Waldo, Room 1416, No. 6 North Michigan Blvd., Chicago, Ill.
Leon H. Walter, Oil City Derrick, Oil City, Pa.
George A. Whitney, Box 98, Main Postoffice, Toledo, Ohio.
Neil Williams, 1316 Second National Bank Building, Houston, Texas.

Refinery Section Starts on Page 136

Crude Stocks Below Last Year's Level

Highest daily average estimated total production in 1929, week ended Aug. 24, 2,975,435 bbls. Lowest in 1929, Dec. 27, 2,595,320 bbls.

Improved Statistical Position Shown by Government Report. Greater Gasoline Stocks a Weakening Influence.

Highest daily average estimated light oil production in 1929, week ended Sept. 14, 2,534,524 bbls. Lowest in 1929, Apr. 13, 2,142,036 bbls.

By Andrew M. Rowley

That the situation as it affects the producing branch of the industry is better now, at least statistically, than it was at this time last year is shown by the government figures on stocks for July. Those figures indicate stocks of crude oil on August 1 of this year were practically the same as on August 1, 1929. During August, 1929, however, more than 9,000,000 bbls. of crude oil was added to storage, while the best information available is to the effect a withdrawal of crude oil was made from storage last month. In other words, crude oil stocks on September 1 of this year are more than 9,000,000 bbls. less than they were a year ago.

While this reduction in crude oil stocks is important in that it shows the trend is in the right direction, it must be kept in mind 9,000,000 bbls. is but a very small per cent of the 523,000,000 bbls. of crude in storage August 1 and that these stocks are especially burdensome in view of the fact developed fields at this time are capable of producing far more crude oil than the market requires. The fact stocks of gasoline now are greater than they were a year ago is an additional very important factor which has been of the greatest influence in weakening the status of the crude oil market.

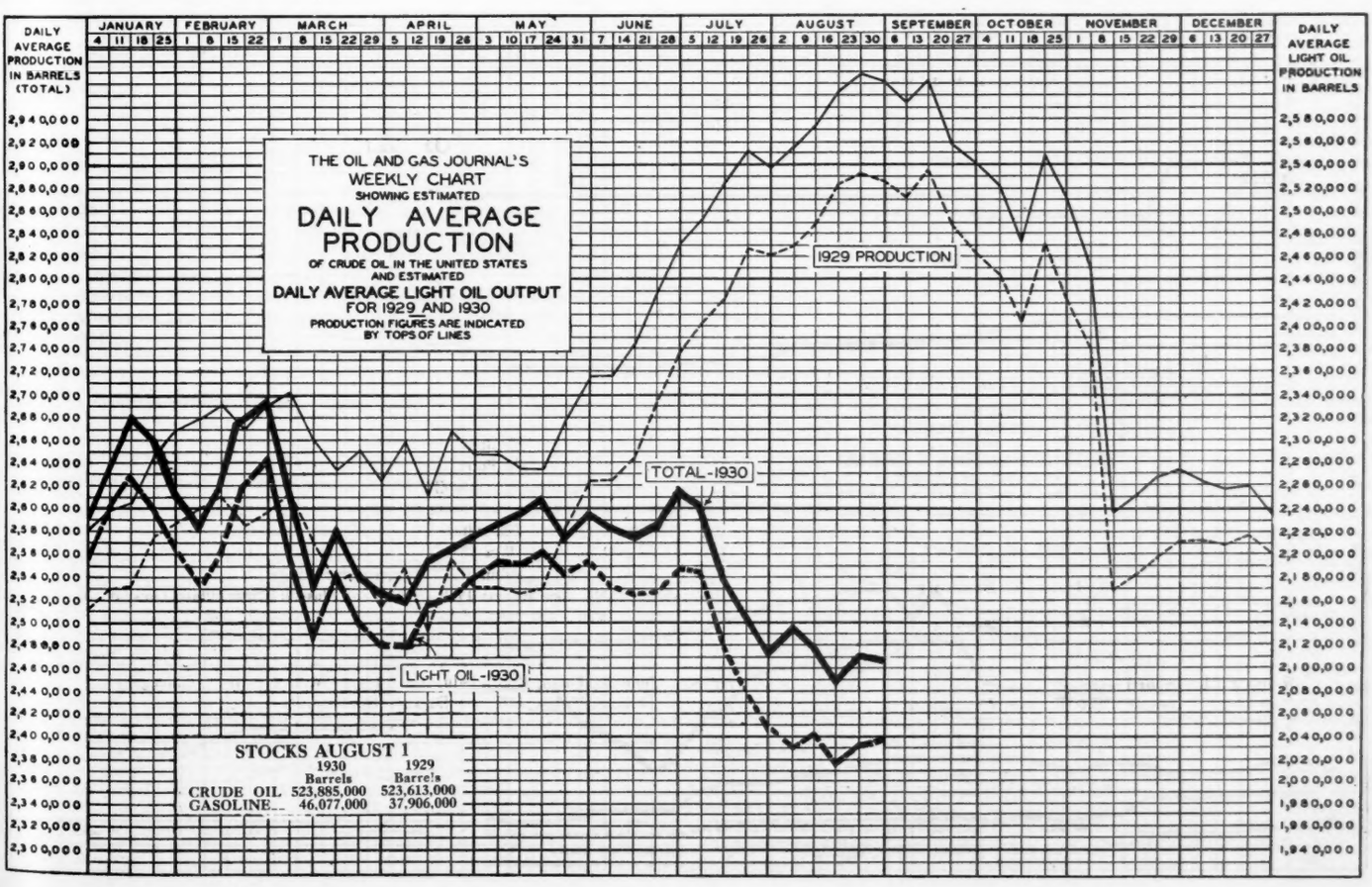
Proration of the various fields in Texas is a question holding attention of operators there following the issuance of the order covering the different areas by the state railroad commission. It is believed beneficial results will be achieved. The situation in Oklahoma is complicated as a result of court action taken by a company in Oklahoma City questioning the right of the corporation commission to order curtailment of production. Also because certain purchasers of crude oil desire to reduce their takings. Other buyers do not wish to increase their purchases, consequently the limit of 550,000 bbls. daily set by the corporation commission for Oklahoma production is really more than the quantity purchasers of this crude desire to handle.

PRODUCTION IN THE UNITED STATES

Estimated daily average production of light and heavy gravity oil in the United States for week ended August 30 and a comparison with the previous week follows:

	August 30		August 23	
	Light	Heavy	Light	Heavy
Oklahoma—				
Oklahoma City	121,240	.....	108,210	.....
St. Louis-Pearson	24,170	.....	26,270	.....
Seminole	138,285	.....	141,395	.....
Northern miscellaneous	228,910	.....	229,645	.....
Southern fields	60,950	.....	60,815	.....
Total Oklahoma	573,555	.....	566,335	.....
West Texas—				
Hendricks	69,899	.....	73,273	.....
Yates	107,976	.....	106,519	.....
Remainder	103,644	.....	104,386	.....
Total West Texas	281,519	.....	284,178	.....
North Louisiana	35,550	5,240	36,220	5,270
Arkansas	17,795	37,260	17,715	37,340
North Central Texas	123,686	.....	125,203	.....
Texas Panhandle	101,391	.....	99,001	.....
East Central Texas	39,562	.....	40,215	.....
Kansas	115,310	.....	114,380	.....
Total Mid-Continent area	1,288,368	42,500	1,283,247	42,610
Gulf Coast	.....	199,670	.....	201,461
Southwest Texas	.....	104,165	.....	107,926
Eastern	120,000	.....	120,000	.....
Rocky Mountain area	115,449	.....	115,403	.....
California—				
Santa Fe Springs	108,000	.....	108,000	.....
Long Beach	103,000	.....	103,000	.....
Playa Del Rey	13,500	.....	12,500	.....
Elwood	35,500	.....	39,750	.....
Ventura Avenue	47,500	.....	47,000	.....
Seal Beach	20,500	.....	20,500	.....
Remainder of State	187,000	88,000	188,000	86,000
Total California	515,000	88,000	518,750	86,000
Total United States	2,038,817	434,335	2,037,400	437,997
Grand total	2,473,152		2,475,397	

Total Decrease 2,245 Bbls.; Light Oil Increase 1,417 Bbls.



Oklahoma Refiners Advance Prices

U. S. Motor Gasoline No Longer Available at Low Prices Prevailing in August. Kerosene and Distillate More Active

By C. O. Willson

The start of a new month brought a slightly improved market tone to several products in Oklahoma (Group 3). As August was brought to a close, a large number of Oklahoma and other Mid-Continent refiners announced price advances of one-fourth to three-fourths cent a gallon effective September 1. These advances included several refiners who had been selling the U. S. Motor grade as low as 5¼ cents to resellers. A low of 6 cents appeared to be the immediate goal for the U. S. Motor grade with similar advances in other grades.

The advance in gasoline was accompanied by a better demand for kerosene, distillate and gas oil. A few refiners who had been selling the 41-43 water white grade of kerosene at 3 cents advanced one-fourth cent and scattered increases were made by other companies on all grades. Although the price ranges on distillate and gas oil were unchanged there was more trading and if continued may result in a general revision upward of the most desirable grades.

Monday, the first day of the month, was holiday, and it was too early on Tuesday to determine what reception would be given the price advances by the buyers. The latter have had things their own way since late spring and it was not anticipated that they would take kindly to price advances in gasoline at the close of the summer which brought the lowest average prices for that season in the recent history of the Mid-Continent Field.

In regard to gasoline and all other products market observers expressed the opinion that any permanent advance in the Mid-Continent was dependent on the attitude of the refiners in the Middle West centering in the Chicago area. As explained in these columns from time to time in previous months, the refiners in the latter area have been a greater factor than usual in the Mid-Continent market and are credited with having nullified all previous efforts to improve the price situation in Oklahoma and adjoining refining groups.

Several of the larger refiners in the Middle West have had excess supplies, particularly gasoline and fuel oil, and in getting rid of this material have quoted prices which brought constantly lower quotations from Oklahoma refiners who attempted to compete in differential territory. It is now said that the lowest priced refiners in the Chicago territory have curtailed their runs and have sufficiently reduced their storage so that products will not be forced on the market regardless of the price. The next few days should determine just how general the improvement is among the refiners mentioned.

Mid-Continent Situation

Those who have made a study of the Mid-Continent situation in most cases believe that conditions will support price advances in several products. As previously indicated, many have felt for some time that the statistical situation both in regard to crude oil and refined products was such that the unprofitable

(Continued on Page 153)

REFINED MARKET BAROMETER

Trading in all grades of furnace oils was more active the past week, deliveries to consumers starting in many parts of the country. Both tank car and tank wagon prices on these products and other special grades of fuel are generally lower than they were a year ago. The gasoline movement continues heavy, but aside from some improvement in prices in the Mid-Continent quotations are unchanged. Natural gasolines continue firm except California where prices have been reduced. Kerosene prices are stronger in the Mid-Continent and Pennsylvania. Heavy grades of fuel oils unchanged. The few price changes in lubricating oils were generally downward. Wax market unsettled.

Mid-Continent—Gasoline prices advanced by large number of refiners. Natural gasolines unchanged. More active demand for kerosene and prices higher in some groups. Good demand for furnace oils. Lubricants weak. Wax demand slow. Fuel oils unchanged.

East Coast—Market irregular. Statistical position of gasoline improving. Better kerosene demand. Furnace oil active. Lubs quiet. Better buying of wax. Export movement routine.

Pennsylvania—Gasoline weak. Kerosene and gas oil stronger. Neutral oils and cylinder stocks unchanged.

Gulf Coast—Gasoline weak. Little new business in fuel oil. Other products unchanged.

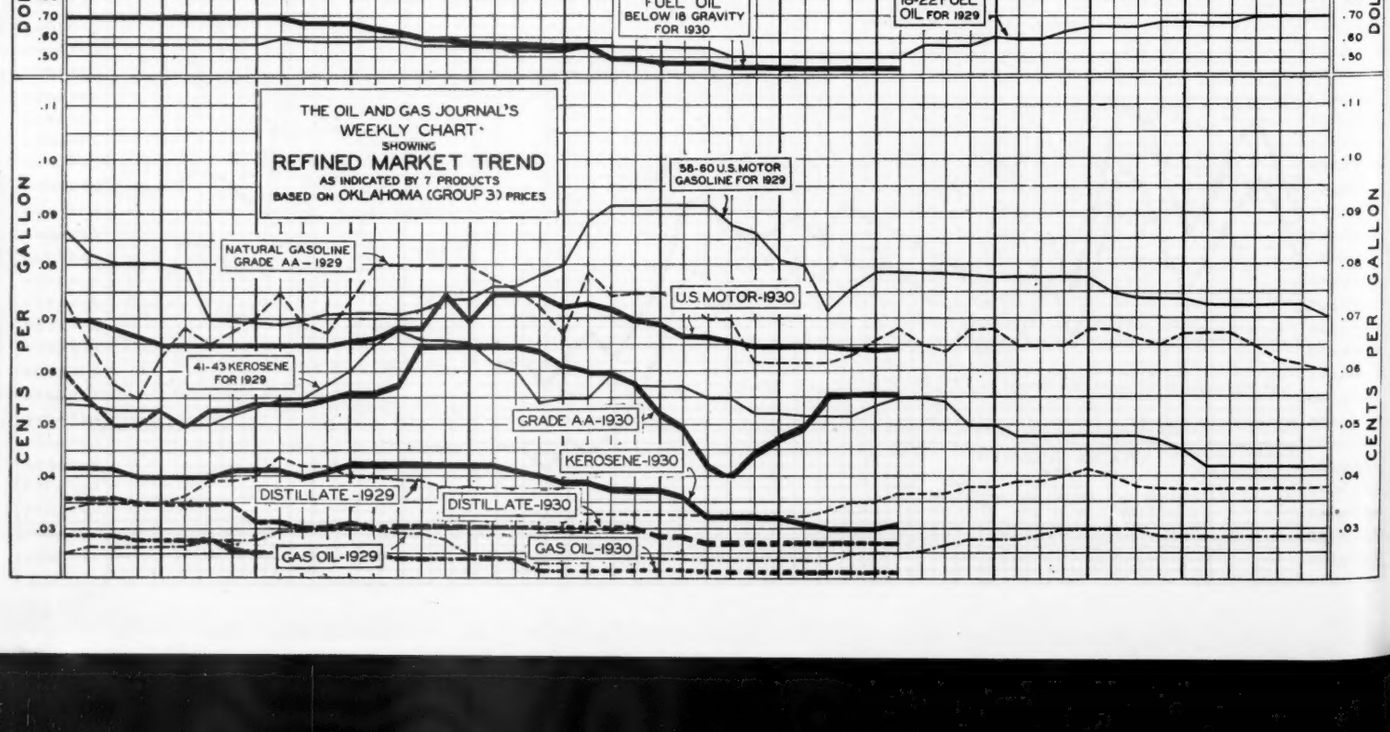
California—Refinery gasolines for domestic movement and natural gasoline lower in price.

Chicago—Gasoline market unsettled with wide variation in prices. Greater demand for kerosene. Fuel oil slow.

MID-CONTINENT REFINERY OPERATIONS
(Data in thousands of barrels)

	Crude oil runs to stills			Gasoline output			Gasoline stocks*			Kerosene production			Kerosene stocks*			Fuel oil and gas oil output			Fuel oil and gas oil stocks*		
	July, 1930	June, 1930	July, 1929	July, 1930	June, 1930	July, 1929	July, 1930	June, 1930	July, 1929	July, 1930	June, 1930	July, 1929	July, 1930	June, 1930	July, 1929	July, 1930	June, 1930	July, 1929	July, 1930	June, 1930	July, 1929
Oklahoma-Kansas	9,546	9,747	10,083	5,551	5,555	5,554	4,328	5,170	4,336	698	735	857	756	858	682	2,787	2,178	3,279	5,168	5,381	6,155
Texas*	5,476	5,356	5,275	2,709	2,457	1,901	2,248	1,978	1,089	269	265	274	156	134	164	2,435	2,380	2,742	3,583	3,561	3,656
Louisiana-Arkansas	1,767	1,622	1,963	692	625	723	348	407	283	65	75	47	45	43	19	873	711	1,209	867	868	1,363
Total	16,789	16,725	17,321	8,952	8,637	8,178	6,924	7,555	5,708	1,032	1,075	1,178	957	1,035	865	6,095	5,269	7,230	9,618	9,810	11,174

*Stocks end of month. Based on reports of the Bureau of Mines.



Mergers Changing Refinery Situation

New Organizations Passing the Old With Additional Consolidations in Prospect. Marketing Facilities Expand

By C. O. Willson

Consolidations completed in recent months and those in prospect before the end of the year are bringing important changes in the relative strength of major refining and marketing organizations.

Although those responsible for these mergers and purchases no doubt expect to place all phases of their consolidated operations on a more efficient basis, the main aim obviously is the correlation of refining departments with the national distribution of refined products, the ultimate aim of the major interests. To this end, certain consolidations already completed or announced have the refining facilities conveniently located from the standpoint of crude oil supplies and consumption of refined products, with company owned market outlets covering the greater part of the entire country. With these organizations about all that remains to be done is "filling in" with additional station outlets with some rearrangement of refining and transportation facilities with the view of reducing these costs to a minimum.

Outstanding among the major merger plans to be recently announced are those of the Sinclair, Prairie and Tide Water Associated interests and that of the Standard of New York and Vacuum companies. A definite announcement regarding the former is expected this month and before the end of the year the opinion of the Federal courts regarding the legality of the latter should be known, the taking of testimony having been completed last month.

Sinclair Plans

Should the merger plans of the Sinclair officials be carried out as planned the consolidated interests, as shown in the accompanying table, will take third rank among the refining organizations and through further expansion before the end of the year might easily take second place in facilities for the manufacture of refined products.

This merger, if completed, will consolidate the refining and marketing operations of the Sinclair, Tide Water and Associated companies, all of which are already major operators. These companies have expanded their operations rapidly in recent years, the Sinclair marketing facilities covering the greater part of the entire United States, east of the Rocky Mountains. Both the Sinclair and Tide Water companies have nation wide distribution in the sale of branded lubricating oils and other special products.

While the eastern refining and marketing facilities of the Sinclair and Tide Water overlap somewhat, it is said that practically all these facilities will be needed in carrying out the sales program of the Sinclair corporation which is intensive as well as extensive for the main consuming centers of the country. The Associated alignment gives the manufacturing and marketing facilities needed for the western states.

While the principal contribution of the Prairie companies in this merger is in the crude production and pipe line transportation phases of the oil business, the refinery of the Producers & Refiners Corp. (a subsidiary organization) at Parco, Wyo., fits in well with the marketing plan. It will give the consolidation a source of supply for the Rocky Mountain area, necessary for nation wide distribution.

It is probable that in time, some changes in the operation of the 15 refineries now owned and operated by the companies would be necessary. From the detailed data given in Table 2 it is evident that the refining capacity will exceed requirements in two or three sections of the country. With large pipe line transportation facilities and the development of water transportation, refining facilities could be readily expanded in areas where they will be needed with a corresponding decrease in sections where the consolidation will give more plants than are required.

TABLE 1—LEADING REFINING ORGANIZATIONS IN UNITED STATES*
(Based on total crude oil and cracking capacities)

	Operating refineries	Daily crude oil capacity	Daily cracking capacity	Total capacity
1. Standard Oil Co. of New Jersey	15	529,500	512,249	1,041,749
2. Standard Oil Co. of Indiana	13	260,500	151,500	412,000
3. Sinclair Consolidated Oil Corp., Prairie Oil & Gas Co. and Tide Water-Associated Oil Corp.†	15	277,200	126,800	404,000
4. Standard Oil Co. of New York and Vacuum Oil Co.‡	20	261,000	103,800	364,800
5. Shell-Union Oil Corp.	8	228,000	123,000	351,000
6. The Texas Corp.	20	211,500	129,000	340,500
7. Gulf Oil Corp.	7	220,000	77,000	297,000
8. Standard Oil Co. of California	4	235,000	40,000	275,000
9. Richfield Oil Co.	5	129,000	28,000	157,000
10. Union Oil Co.	6	106,900	36,000	142,900
First 10 organizations (total)	113	2,458,600	1,327,349	3,785,949
11. Pure Oil Co.	6	84,500	46,200	130,700
12. Atlantic Refining Co.	4	69,000	36,200	105,200
13. Continental Oil Co.	8	65,500	30,100	95,600
14. Cities Service Co.	8	58,600	20,500	79,100
15. Sun Oil Co.	3	55,000	15,000	70,000
16. Standard Oil Co. of Ohio	3	36,000	17,500	53,500
17. Mid-Continent Petroleum Corp.	1	40,000	12,000	52,000
18. Louisiana Oil Refining Corp.	1	21,200	13,000	34,200
19. Ohio Oil Co.	4	22,300	10,800	33,100
20. Barnsdall Oil Corp.	3	24,000	9,000	33,000
Second 10 organizations	41	476,100	210,300	686,400
First 20 organizations	154	2,934,700	1,537,649	4,472,349
Total United States	363	3,723,360	1,707,299	5,430,659

*Capacities taken from The Oil and Gas Journal's 1930 annual survey of petroleum refining. †Merger plans not officially announced. ‡Merger of two companies awaits approval of federal courts.

TABLE 2—REFINERY LOCATIONS OF MAJOR REFINING ORGANIZATIONS

	Daily crude oil cap.	Daily crack. cap.
1. Standard Oil Co. (New Jersey):		
Standard Oil Co. of New Jersey, Baltimore, Md.	32,000	43,597
Bayonne, N. J.	88,000	50,400
Jersey City, N. J.	17,000	.....
Linden, N. J.	75,000	110,600
Charleston, S. C.	15,000	18,523
Parkersburg, W. Va.	5,000	9,129
Humble Oil & Refining Co., Baytown, Tex.	125,000	158,000
Ingleside, Tex.	15,000	16,000
McCamey, Tex.	15,000	16,000
San Antonio, Tex.	4,500	.....
Chilton, Tex.	4,500	.....
Breckenridge, Tex.	1,500	.....
Nechez, Tex.	5,000	.....
Beacon Oil Co., Everett, Mass.	27,000	25,000
Standard Oil Co. of Louisiana, Baton Rouge, La.	100,000	65,000
Total	529,500	512,249
2. Standard Oil Co. of Indiana:		
Standard Oil Co. of Indiana, Wood River, Ill.	30,000	20,500
Whiting, Ind.	90,000	56,000
Sugar Creek, Mo.	14,500	15,000
Zilwaukee, Mich.	1,500	.....
Mexican Petroleum Corp., Baltimore, Md.	12,000	.....
Destrehan, La.	32,000	.....
Savannah, Ga.	5,000	.....
Midwest Refining Co., Casper, Wyo.	55,000	30,000
Greybull, Wyo.	10,000	15,000
Laramie, Wyo.	3,000	4,500
Utah Oil Refining Co., Salt Lake City, Utah	6,000	8,500
Dixie Oil Co., Superior, La.	3,000	2,000
Total	260,500	151,500
3. Sinclair Consolidated Oil Corp., Prairie Oil & Gas Co. and Tide Water Associated Oil Co.:		
Sinclair Refining Co., East Chicago, Ind.	40,000	35,000
Coffeyville, Kans.	10,000	10,000
Argentine, Kans.	8,000	10,500
Muskogee, Okla.	1,200	.....
Sand Springs, Okla.	8,000	4,000
Wellsville, N. Y.	6,500	.....
Marcus Hook, Pa.	17,000	10,000

(Continued on Page 150)

Standard-Vacuum

The proposed merger of the Standard Oil Co. of New York and Vacuum Oil Co. is based on conditions which differ in some respects from those existing in the Sinclair plan although the end sought is in general, the same. The correlation of export activities in which both companies are major factors is said to be one of the principal incentives in this consolidation.

The operations of the Vacuum company in the past have been largely centered in the manufacture and sale of lubricating oils on a nation wide basis through dealers. Until the past year or two its own company station outlets were unimportant.

The trend in marketing in which major companies confined their sale of lubricating oils to their own brands and the decreasing importance of independent dealers in lub oil marketing, forced the company to change its policies. In recent months the company has acquired controlling interests in the Lubrite Refining Co. and White Star Refining Co., independent refining interests with market facilities for the bulk of their gasoline output. The company is also negotiating for the purchase of the Wadhams Oil Co. and Bartles-Maguire Oil Co., refiners and marketers which were merged last year.

The company has also acquired control of a number of large independent jobbing concerns. The policy of the company is to continue the same management when properties are acquired, the only change being in the introduction of Vacuum's branded lubricating oils at stations and dealer accounts.

The policy of the Standard of New York has been somewhat similar. The company several years ago acquired control of the Magnolia Petroleum Co., a Mid-Continent concern and later the General Petroleum Corp. on the West Coast. More recently the White Eagle properties in the Mid-Continent and Middle West were acquired. The parent company has permitted these subsidiaries to continue their operations with a minimum of direction from New York headquarters.

Whether the two companies will continue this plan of operation in the event their merger plans are approved by the courts, remains to be seen. Most financial observers take the position that the maximum benefit in consolidations cannot be obtained unless there is uniformity in names and products so as to permit national advertising and sales programs similar to those of the Texas and Shell companies. Such a plan could be worked out by the Standard of New York and Vacuum companies with less overlapping of refineries and stations than in the case of the Sinclair expansion.

Gulf Expansion

In the purchase of the Paragon Refining Co. the Gulf Oil Corp. departed from its usual policy of building new refineries and stations rather than acquiring the properties of other companies. The purchase and the building of a new refinery at Pittsburgh with another to be built at Cincinnati, coupled with a pipe line connection to the Mid-Continent Field, is believed to be the start of a rapid expansion for the Gulf interests in the middle western states so that in a short time its facilities in that section will be on a parity with those in the eastern and Seaboard states.

Phillips-Independent

The consolidation of the Phillips Petroleum Co. and the Independent Oil & Gas Co. announced last week subject to final approval of stockholders and directors, brings together two strong independent refining and marketing organizations. In refining capacity they rank just below the Barnsdall corporation which is given twentieth place in the accompanying table.

Both companies are exceptionally strong in marketing, their own stations and controlled dealer accounts taking practically all of their refinery gasoline output. The combined companies can be further expanded and also occupy a favorable position for consolidation with companies which are active in other areas.

The Ohio Oil Co. which up until a few years ago was engaged solely in the production and transportation of crude oil, through the recent acquisition of three refineries owned by the Transcontinental Oil Co. now takes rank among the first 20 companies. The three refineries which are operated by the Mid-Kansas Oil & Gas Co., a subsidiary, gives the company refining and marketing representation in the Mid-Continent states and the Lincoln Oil Refining Co., another subsidiary with a refinery at Robinson, Ill., is the nucleus for expansion in the Middle West.

Future Expansions

A study of the data given in the accompanying tables will show the trend toward consolidations is probably not ended with future mergers to overshadow anything already announced.

The Standard Oil Co. of New Jersey, with its subsidiaries which far outranks other companies in refining capacity, still markets over a relatively small area in this country. It has no direct representation in the Middle West, Rocky Mountains and West Coast and no refineries which could economically serve these sections.

If the merger of the Standard of New York and Vacuum Oil Co. is approved, it is believed that the New Jersey Standard can bring about the reconsolidation of other unattached Standard interests and thus operate on a national basis.

(Continued on Page 150)

Installation of Oil and Gas Separators

Depends Upon Specific Operation and Conditions in Field or at Individual Well. Data on Results Secured

By E. H. Adams
Trumble Gas Trap Co., Los Angeles, Calif.*

There are, no doubt, a number of proper methods for the installation of the separators, each depending on the specific operation involved and the conditions to be met in the field or at the individual well. The propriety of the hook-up will be determined by the establishment, as far as possible, of the economic factors of the case with respect to ultimate oil recovery and efficient and completely economical gasoline recovery, with careful consideration being given to the effect of the installation on the oil production of the well after the flush head is off. In this consideration the economies should not be lost sight of that may be effected in gas lift, repressuring, gas transmission, absorption and compressor plant operations.

Without some specific data bearing on the subject, covering the results secured with various types of installations, the hook-up is made in the usual course of procedure according to the opinion of the men in charge and will usually follow custom. In other words, most separators are installed in some given manner because some man or some company make installations in a certain way which is apparently satisfactory and, so, in the absence of any data to establish the efficiency or lack of efficiency of the hook-up the others in the field or the district follow along.

It is, perhaps, unfortunate that so little work has been along the lines tending to the establishment of the factors involved in separator installations, which have a real bearing on the ultimate economic recovery of the oil, as well as the efficient and economical handling of the gas in the closely allied, auxiliary production operations. It seems apparent that in many cases a close contact and more complete co-operation between the production departments and gas departments of the producing companies would result in some surprising and generally speaking very satisfactory results.

There are a very large number of situations that might be discussed, but only those more commonly met with in large operations will be considered in this paper.

In general practice, the separator is usually set on the ground and it may be at the well or some distance from the well either as single well installations or in batteries at the field flow tanks. Another practice is to cut a number of wells into one separator set at some central location, and, of course, considerable distance from some wells. Then we find the separator elevated wherever it is set; and a few major installations using high and low-pressure separators in series with the low-pressure separator always elevated.

Location of Separators

Why there should be this variation is hard to say without an analysis of the particular situation. It appears, however, that an analysis of the economic factors will establish that for most installations the separator should be located at the well, and, in addition, elevated to secure a minimum separator operating pressure. When and during the time that high and low-pressure series separation is in order, these separators should also be located at the well and the secondary separator elevated to secure, if possible, gravity flow of the oil to the tanks, or a minimum pressure on the elevated separator. This will leave the low-pressure separator already elevated when the high-pressure unit is moved to another location; and it should be so elevated for low-pressure flow and later gas lift operations.

Aside from minor operating labor considerations there does not seem to be any advantage in setting the traps at any considerable distance from the well. Setting the separators at the tank batteries makes it handy for the pumper to handle the switching of the traps and tanks during the period of flush production, and the concentration of fire protection equipment at the battery is worthy of consideration. The single trap installation located at some distance from the well does not seem advisable. It is not handy to the well and is, therefore, apt to be neglected by the men handling the production. It is good practice to give operating separators some systematic attention as unnecessary loss and trouble can thereby frequently be avoided.

The setting of the separator at some central location and flowing a number of wells into it also has the same drawback as regards distance from the wells. It compounds the possible evil of the single well separator set far from the well. Some of the lead lines may be quite long, resulting in excessive and undesirable back pressure on the tubing. With this type of installation too little control of the individual well pressure is permitted, which may result in a loss of production in excess of that experienced with the single well separator set at a distance from the well, or at the tank batteries.

The back pressure that does not particularly affect one well may seriously affect the production of another or a number of others. Since, generally speaking, each well has different production characteristics which must be studied at some length in order to be reasonably sure that the most efficient production methods are being used—after the flush head is off—it does not seem reasonable that a number of wells should be cut into one separator until such time as these wells are on the pump with relatively small oil production and very little gas production.

While the flush period is on and there is an abundance of well pressure, it makes little difference where the separator is set as far as production is concerned. Considering actual efficiency of separation, we have no data to indicate that there is any difference in the separation secured by either method, at a given pressure.

Results of Experience

However, actual cut and try experience indicates that the separator should be at the well and elevated. The desirability of elevating the separator is indicated by a study of the gas and natural gasoline content data. In other words, the technical data is supported by experience in actual operation, which is as it should be.

A few years ago, it was standard practice in California to set the separators at some distance from the well, usually at the lease tank batteries. Then as more careful and technical study of production methods became the order of the day, considering oil, gas and natural gasoline recovery, it seemed desirable that the separators should be moved close to the well and elevated to reduce as much as possible the back pressure set up on the tubing by the use of the long lead lines to the separators.

This was particularly desirable in the case of the gas lift wells. The settings were changed and the change resulted in increased production either in oil or gas or both, ranging in increased oil production from a few barrels to a maximum of about 300 bbls. per day. The elevation of the separators resulted in increased gas and gasoline recovery and materially

(Continued on Page 148)

*Before southwestern district, American Petroleum Institute division of production. Galveston, Tex., September 4, 1930.

Effects of Tubing Flowing Wells

Great Deal of Study of Individual Well Conditions Necessary. Results on Wells in Yates Field

By H. C. Hardison
In Collaboration With the Yates Field Engineering Committee*

During the first three years of the life of the Yates Field, the ordinary practice was to allow the wells to flow through the casing, pinched at the surface so that the production might meet the limitations imposed by the voluntary proration restrictions in force. A few scattered wells of low potential had been tubed in a more or less "hit and miss" manner with the thought of increasing the present production, lengthening the flowing life and preventing the accumulation of water in the hole. To the best of our knowledge no consideration was given to the reduction of gas-oil ratios.

Before any general tubing program was entered upon the average gas-oil ratio for the field was slightly in excess of 450 feet per barrel. This is a very low average, and if every well in the field had approximated it, it is possible that no further effort at gas conservation would have been made. However, there were individual wells and groups of wells which had gas-oil ratios far in excess of the above figure; in some instances as high as 5,000 feet per barrel.

It is generally understood that the forces driving the oil from the formation to the surface are hydrostatic head, expanding gas, or a combination of the two. The degree of effectiveness of either depends upon the structural position of, and porosity encountered in, the individual wells. It is desirable to keep the gas production at a minimum, even in case where water drive lifts the oil, as it will tend to maintain formation pressure at a maximum, preventing premature encroachment of water and the resulting "trapping" of oil between wells.

Series of Experiments

In the summer of 1929, a series of experiments was carried on by one of the operating companies to determine the relationship of rate of oil flow to gas-oil ratios. In general it was found that increasing the production rate reduced the gas-oil ratio. According to information now available, the type of well fulfilling the conditions just mentioned is most common. However, there are a number of wells in the field in which the gas-oil ratio is constant, or even increased as the rate of flow is increased. Another company found that on one of its leases a very drastic reduction of gas-oil ratios was possible by increasing the rate of flow in a number of wells of the type first mentioned.

The latter company made the first real attempt to reduce gas-oil ratios. These wells having a high gas-oil ratio at low steady rates of flow were produced intermittently at rates sufficiently high to materially reduce the amount of gas produced with the oil. While flowing steadily at low rates the average ratio for four wells was 2,673, but when producing at rates high enough so that the allowable daily production was made in a few hours, the average ratio was brought down to 1,091 feet to the barrel, a reduction of approximately 60 per cent.

It is very probable that the saving of gas effected by this means was somewhat offset by the sudden release of pressure on the producing horizon in each well as it was opened daily to flow its allotted production. Care was taken while flowing these wells intermittently not to allow the well head pressure to drop below 50 per cent of the closed-in pressure. This is not true "stop-cocking" inasmuch as the term is usually taken to mean that a well is flowed intermittently so that the maximum rate of flow is obtained, which reduces the well head pressure to

(Continued on Page 114)

*D. B. Courville, Gulf Production Co.; P. P. Gregory, proration engineer; W. A. Schaeffer, Shell Petroleum Corp.; Dale Nix, the California Co.; C. V. Temple, Humble Oil & Refining Co., in collaboration with H. C. Hardison. Before southwestern district, American Petroleum Institute division of production, Galveston, Tex., September 4, 1930.

SUMMARY OF RESULTS OF TUBING REPRESENTATIVE WELLS, YATES FIELD, TEX.

Company—	No. wells	Before tubing: Oil bbls. per day	Before tubing: Average cu. ft./bbls. ratio	Before tubing: Gas M. cu. ft. per day	After tubing: Oil bbls. per day	After tubing: Average cu. ft./bbls. ratio	After tubing: Gas M. cu. ft. per day	Per cent reduction in gas-oil ratio
All Wells								
"A"	13	1,759	825	1,448	1,986	542	1,079	34
"B"	5	1,322	908	1,201	1,322	814	995	10
"C"	14	4,570	1,310	5,981	5,091	570	2,891	56
"D"	11	1,784	1,031	1,813	1,784	831	1,461	19
"E"	12	1,402	1,146	1,607	1,711	933	1,596	19
Total	55	10,837	1,112	12,050	11,894	674	8,022	39
Tapered Tubing								
"B"	1	480	1,325	636	480	1,325	636	0
"C"	14	4,570	1,310	5,981	5,091	570	2,891	56
"D"	3	520	417	217	520	363	189	13
Total	18	5,570	1,225	6,834	6,091	610	3,716	50
Straight Tubing								
"A"	13	1,759	825	1,448	1,986	542	1,079	34
"B"	4	842	671	565	842	426	359	37
"D"	8	1,264	1,263	1,596	1,264	1,007	1,272	20
"E"	12	1,402	1,146	1,607	1,711	933	1,596	19
Total	55	5,267	990	5,216	5,803	742	4,306	25

Temperature Ratings for Gasolines

Users of Aviation Motor Fuels Suggest New Specifications at Chicago Meeting. Many Phases of Problem

CHICAGO, Aug. 29.—"Give airplane fuels a temperature rating as well as an antiknock rating," was a much discussed statement during the tenth annual meeting of the Society of Automotive Engineers held here in the past week. The effect of different gasolines and blends with reference to their tendency to increase the operating temperature of the motor to a dangerous point prompted the free discussion of all motor fuel characteristics and it is evident that the refiner and marketer are faced with more intricate problems in supplying a suitable aircraft fuel than in supplying a suitable fuel for automobiles.

Higher compression ratios, air-cooled motors, wide variations in loads and the effect of sudden altitude changes have introduced factors which call for a close co-operation between the motor manufacturer and the refiner and considerable data were presented in the papers to help effect this.

Speaking on the general subject of the fuel requirements of the aircraft engine, S. D. Heron of the material division of the air corps in the United States Army said: "Failure of an aircraft engine as a result of the use of fuel of insufficient antiknock value is almost entirely always the result of overheating of the cylinder unit. There is evidence that the relative tendencies of fuels to knock audibly and their tendencies to heat the cylinder unit are not always equal. Therefore, a temperature method of rating fuels for aircraft use may prove to be more desirable than one depending upon intensity of knock. Thus, the problem of rating aircraft fuels may prove to be distinctly different from that of automobile fuels, and investigation of this problem seems to be desirable. In this connection, some evidence is obtained in multicylinder aircraft engines which suggests that tetraethyl lead has an effect in suppressing overheating of the cylinder unit which is out of proportion with its properties of suppressing audible knock and controlling the rate of pressure rise."

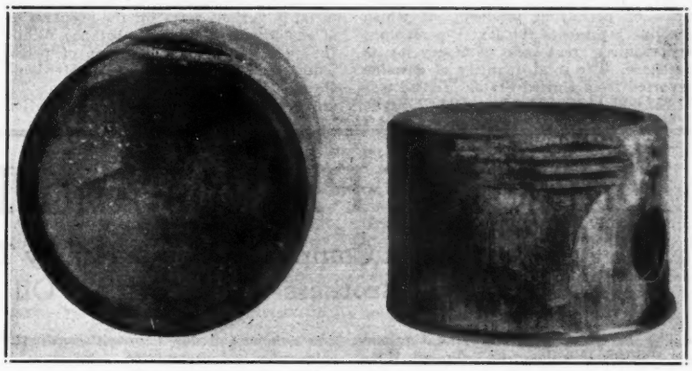
The adoption of a dual standard of antiknock rating on motor fuels by the air corps was also signified in which it was pointed out that the present premium automobile fuels satisfactorily operated the bulk of the modern commercial and military planes but the ground boosted type and the high compression type need fuels of a higher antiknock rating. At present the rating of the general run of premium fuels approximates that for a blend of 70-75 per cent octane and 30-25 per cent heptane. The high performance engines of the ground boosted type and these having a high compression ratio will require a fuel having an antiknock rating of the equivalent of a blend of 87 per cent octane and 13 per cent heptane.

Relative Values

The relative natural merits of gasolines produced from various crudes was also discussed in this paper and Mr. Heron said: "The relative antiknock values of fuels for aircraft purposes appear to vary widely with test engine conditions, at least when tested by the method of working at part throttle and a pronounced knock. The most pronounced change in relative values is produced by variation of cylinder temperature, particularly when comparing lead and benzol in highly naphthenic California gasolines. In measuring detonation by the tendency to heat the cylinder unit, the material division has found that the amount of tetraethyl lead required to equal 50 per cent benzol in a California fighting grade gasoline varies by several hundreds per cent between the limits of 200° and 400° F. cooling liquid temperature, the lead requirement rapidly dropping with increasing jacket temperature.

"Similar tests of lead and benzol in an average Mid-Continent D. A. G. showed that between the limits of 150° and 140° F. jacket temperature, the lead equivalent of 50 per cent benzol varied by over 100 per cent. Using a similar California gasoline, the same Mid-Continent D.A.G. and benzol, the same engine equipment and measuring detonation by both temperature and bouncing pin methods, the Ethyl Gasoline Corp. and the Standard Oil Development Co. have found that, at 350° F. jacket temperature, the lead equivaent of 50 per cent benzol is subject to more than 100 per cent variation, both as a result of change of rate of test, engine revolution and of knock intensity."

The importance of cylinder temperatures as influenced by the quality of the motor fuel was stressed by W. A. Parkins of the Pratt & Whitney Aircraft Co., in which he said: "Undoubtedly, the biggest problem before the manufacturer of relatively large air-cooled engines is the control of cylinder temperatures in service. Under the best conditions of full throttle operation, these temperatures remain from 75° to 100° F., below the accepted limits of safety. Yet poor engine installations in airplanes result in temperature increases of as much as 150° F., and the use of fuels marketed for aviation purposes is responsible for increases of 300° F., beyond those of normal service. The maximum cylinder temperatures consistent with successful operation depend on materials and cylinder design. The relation of measured to maximum temperatures depends on the position of the measuring elements. Since all air-cooled engines with piston displacements above 1,000 cubic inches now in service are of similar design and employ the same materials, and since experience and good practice have established a standard method of obtaining temperature readings, measurements of 300° F. for the lower end of the cylinder barrel and 500° to 550° F. for the rear side of the head have been generally accepted as the upper limits.



Results of detonation on a normal-compression piston after six minutes of full-throttle operation. The fuel used during this run was a widely distributed domestic aviation gasoline refined from Mid-Continent crudes. The temperature of the cylinder head during the test mounted to 800° F., 200° F. below the plastic point of the alloy. This photograph was an exhibit in Mr. Heron's paper.

Compression Ratios

"Another major factor to be considered is compression ratio. Due chiefly to the lack of suitable gasoline, the compression ratio of air-cooled engines in the past has been kept below 5¼ to 1. However, as progress is made in fuel development, there seems reason to believe that compression ratios will increase and, by so doing, improve still further thermal efficiency and cylinder cooling. Once detonation is suppressed, the average reduction in cylinder head temperature resulting from an increase in compression ratio of from 5 to 6:1 is in the neighborhood of 50° F., a gain of considerable importance. Therefore, it is apparent that for the successful operation of the relatively large, high output, air-cooled engine suitable for military or transport use, fuel plays an important part. Although it accounts for less than 10 per cent of the total cost of systematic airplane operations, fuel is considered by many to be the most important factor in dependable service."

The question of motor fuel volatility was also discussed in considerable detail. Maj. J. H. Doolittle of the Shell Petroleum Corp. divided his discussion of the subject into four parts with respect to the requirements of the present-day aircraft fuel.

Ease of Starting

Major Doolittle pointed to the work of Doctor Bridgeman of the Bureau of Standards as a basis of forecasting the ease with which a given fuel will start a motor, but he also discussed the application of these same principles in a practical way in the field.

He said: "Consider first the question of starting the engine. In practically every case the engine is 'primed' by injecting a small quantity of fuel into the inlet manifold close to the inlet valve so that when the inlet valve opens liquid gasoline is drawn directly into the cylinder. Now in order to be able to get an explosion we must have in the cylinder near the spark plugs at least 1 part of fuel vapor to every 20 parts of air. This means that if by means of our priming arrangement, we supply to the cylinder one part of liquid fuel by weight to every three parts of air, then 15 per cent of our fuel must evaporate under the temperature and pressure conditions existing in the cylinder in order that the engine may start. If, however, our fuel is not sufficiently volatile to evaporate 15 per cent under these conditions, then in order to get a start we have to supply a greater proportion of fuel to air. We cannot, however, indefinitely continue priming because we will eventually inject so much gasoline that the oil will be washed off the cylinder walls, the compression lost, and further difficulty result. This often happens in very cold

(Continued on Page 151)

BUREAU OF MINES JULY STATISTICS ON CRUDE AND REFINED PRODUCTS

According to reports received by the Bureau of Mines, Department of Commerce, the production of crude petroleum in the United States during July, 1930, amounted to 76,743,000 bbls., a daily average of 2,475,000 bbls. This represents a decline from the daily average of the previous month of 75,000 bbls. and from July, 1929, of 471,000 bbls., or 16 per cent. It also represents the lowest level of crude production that has been recorded since July, 1928.

Practically all of the total decline in production was recorded in Oklahoma. Daily average production in Texas, the leading producing State, was practically unchanged from the previous month. California showed a small gain in daily production but the average of 606,000 bbls. was 30 per cent below that of July, 1929. On the same basis, the July, 1930, average for Oklahoma was 21 per cent below the previous year, that of Texas only 5 per cent lower. Production in the Oklahoma City Field, the most closely watched pool at this time, was further curtailed in July and the daily average production for that month was 91,000 bbls. as compared with 105,000 bbls. for June. Production in Kansas showed a material decline as did the majority of the eastern producing states. The Darst Creek Field of Guadalupe County, Texas, reported a material gain in July. New Mexico continued to grow in importance among the producing states as the output of Hobbs Field, which accounts for about three-fourths of the total output, practically doubled that of June.

Stocks of crude petroleum east of California on July 31 amounted to 378,264,000 bbls., a slight increase over the June total. Stocks of crude in California fell off 700,000 bbls., making a net decline in all crude stocks of about 250,000 bbls. This was much less than the June decrease, reflecting the curtailment in crude runs as mentioned below.

Record-breaking gasoline domestic consumption and the drop in output of crude resulted in a further material withdrawal from total stocks of all oils. The daily average production of the raw materials, crude petroleum, natural gasoline and benzol, was 42,000 bbls. below the daily average domestic consumption.

Refined Products

Crude runs to stills declined materially in July, when the daily average amounted to 2,537,000 bbls. as against 2,692,000 bbls. in June.

Daily average motor fuel production was lower but domestic demand reached a new high level of 1,237,000 bbls. This represents an increase over July, 1929, of 3 per cent. Gasoline exports were much reduced from June, 1930, and daily average total demand (domestic demand plus exports) for July was below June and only 2 per cent above July, 1929. Stocks of motor fuel fell off over 4,000,000 bbls. in July, but the total on hand at the end of the month—46,077,000 bbls.—was over 8,000,000 bbls. higher than a year ago. At the current rate of total demand, these stocks represent 32 days' supply as compared with 35 days' supply on hand a month ago and 27 days' supply on hand a year ago.

The refinery data of this report were compiled from schedules of 351 refineries, with an aggregate daily recorded crude-oil capacity of 3,692,200 bbls., covering, as far as the bureau is able to determine, all operations during July, 1930. These refineries operated at 69 per cent of their recorded capacity, given above, as compared with 352 refineries operating at 73 per cent of their capacity in June.

Principles Involved in Hydrogenation

Process Practiced First for Purpose of Hardening Certain Vegetable and Animal Oils. Heat Is Used in Some Form

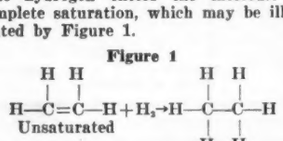
By C. K. Francis, Ph.D.
Technical Editor

Synthetic methods have enabled the organic chemists to manufacture numerous substances that are of value to mankind. These chemists have converted coal tar into dyes, perfumes, medicines and numerous compounds of commercial importance. The steps followed in their work have involved rearrangement of the molecules and sometimes the introduction of an additional element or elements. A large part of such conversions has centered around the element carbon. This element, usually combined with hydrogen, may form many thousand different substances and these substances are different in properties because of the manner in which groups of carbon and hydrogen are arranged. Very often the chemist finds it difficult to change the grouping and thus produce a new substance, because the raw material will not readily unite with hydrogen or other elements. Such compounds are said to be saturated. However, many compounds do not contain their full quota of hydrogen and they are known as unsaturated substances. These may quite easily be changed to saturated compounds by adding bromide, oxygen, nitrogen, hydrogen, etc. This form of chemical change being specified by bromination, oxidation, nitration and hydrogenation.

Since very early times soaps have been made from selected animal fats. Other animal and vegetable oils were not suitable because of their liquid condition. It was discovered that many of these liquid oils were deficient in hydrogen and when this element was introduced in the proper proportion, the material was changed to a solid, that is, it was hardened.

The hydrogenation of oils, or liquid fats, was first practiced for the purpose of hardening certain vegetable and animal oils. The explanation of the operation is that hydrogen enters the molecule to complete saturation, which may be illustrated by Figure 1.

Figure 1



Hardening Unsaturated Fats

The hardening of unsaturated edible fats is highly desirable for several reasons. The hydrogenated product is usually free from odor and does not become rancid, or spoil, during storage.

Due to its weight, a very small quantity of hydrogen may satisfy the unsaturated equivalent. The unsaturated oleic acid ($C_{18}H_{34}O_2$) will change to stearic acid ($C_{18}H_{36}O_2$) upon the addition of less than 1 per cent of hydrogen.

Heat in some form has been used in the hydrogenation of such oils, and the process accelerated by the presence of a catalyzer. The catalytic material does not enter into the compound and its only function is to speed up a reaction that otherwise would be relatively slow. An economic or commercial process, in most instances at least, requires that the catalyzer shall be recovered to be used over and over again.

The essential feature of the ordinary hydrogenation process is to provide means for intimate contact of the oil and hydrogen in the presence of the catalyzer. The oil may be mixed with the catalyst and sprayed into a vessel containing hydrogen. Another method is to place the mixture of oil and catalyzer in a reaction chamber where the contents are agitated together with hydrogen. A similar process requires that hydrogen be passed, bubbled, through the oil that has been prepared with the required quantity of the catalyst. Some form of nickel is the commonly used catalyzer for the vegetable and animal oils.

Supply of Petroleum

The greater part of the petroleum supply, and consequently the main supply of motor fuel, comes from the United States; the annual production of petroleum being 67 per cent of the world's supply. All countries import large quantities of petroleum products, of which gasoline represents the larger percentage and requires great sums of money for its purchase. The total quantity of gasoline exported from United States in 1928 was 51,752,000 bbls., valued at $232,298,000. This condition has stimulated other nations to search their own territory for a source of their motor fuel. England, France, and especially Germany have investigated numerous possibilities; among these have been cheap alcohol and products from coal. The relatively high cost of the raw materials and the manufacturing expense have prevented commercial success in the production of alcohol for motor fuel. The vast deposits of coal, together with the fact that many coal products were being made, encouraged investigators to experiment with this material in various ways for the preparation of gasoline or a similar substance. While the fact that certain portions of petroleum could be cracked into lighter substances was known for many years, it did not come into commercial operation until the automobile created a demand for gasoline. The success of the cracking process encouraged wide research for additional methods. Among these was that discovered by Bergius. He found that if a mixture of coal and oil were heated, at about 850° F., in an atmosphere of hydrogen under a pressure of approximately 2,000 pounds to the square inch, that the coal was converted into oil to the extent of about 90 per cent.

The first experiments of Doctor Bergius were started at Hanover, Germany, in 1913, and had for their object the manufacture of a motor fuel from coal. It was soon found that the yields depended upon the quantity of carbon present and that when the carbon content was kept below 85 per cent, complete hydrogena-

(Continued on Page 149)

Merger of Phillips and Independent

Important Companies Dominated by Three Famous Phillips Brothers Form Strong Oil Combination

The Independent Oil & Gas Co. and the Phillips Petroleum Co., through their executive committees, have agreed upon terms and conditions for consolidation of the two companies. This announcement was made from the executive department of the Independent Oil & Gas Co. in Tulsa Friday, August 29, by means of

Frank Phillips

an official communication which read as follows:

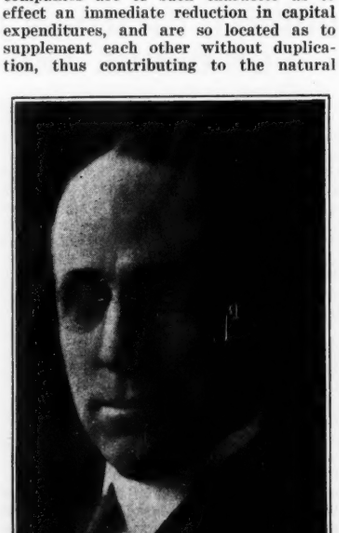
"R. C. Sharp, president of the Independent Oil & Gas Co., and Frank Phillips, president of the Phillips Petroleum Co., announce that the executive committees of their respective companies have agreed upon terms and conditions for consolidation of the two companies on the basis of an exchange of Independent stock for Phillips stock at the approximate book value of the two companies as of July 31, 1930.

"This agreement is subject to the approval of the directors of the Phillips Petroleum Co. and of the directors and stockholders of the Independent Oil & Gas Co. as may be necessary.

"No change in the management, headquarters or employes of either of the companies is contemplated.

"The consolidation will have total assets of $316,000,000, of which over $103,000,000 has been charged to reserves of all kinds. Net cash and current assets will amount to over $40,000,000.

"The physical properties of the two companies are of such character as to effect an immediate reduction in capital expenditures, and are so located as to supplement each other without duplication, thus contributing to the natural



L. E. Phillips

economies of this consolidation, amounting to several million dollars annually."

On the day following the foregoing announcement Frank Phillips, president of the Phillips Petroleum Co., issued a second statement in the course of which he gave the following facts and figures:

"As of July 31, 1930, the consolidated balance sheet of the Phillips Petroleum Co. shows a net paid up capital and surplus of $126,140,173.34, of which $36,777,028.04 represented earned surplus. As of the same date the consolidated balance sheet of the Independent Oil and Gas Co. shows net paid up capital and surplus of $39,622,836.22, of which $9,110,342.03 is earned surplus. The combined paid up capital and earned surplus of the two companies is $165,768,009.56.

"The consolidation will have approximately 2,600,000 acres under lease in Oklahoma, Kansas, Texas, New Mexico, Arkansas, Colorado, Michigan, California, Louisiana and Kentucky, with a combined potential net oil production of approximately 125,000 bbls. a day, coming from 3,686 wells."

The consolidated corporation will have 54 natural gasoline plants, with a daily output of approximately 1,000,000 gallons of grade AA natural gasoline, and with facilities for converting such portion of this grade into other grades as the market demands may require. The

Waite Phillips

combined companies will have 1,600 bulk and service stations and approximately 10,000 resellers and three refineries.

Occasioned No Surprise

The announcement of the agreement to consolidate the companies, owned largely and dominated by the three Phillips brothers, Frank, L. E. and Waite, occa-

(Continued on Page 78)

Rivalry in Irak Field May Flood Market

King Feisal Protests Development Policy and Seeks Exploitation by New European Company. Needs Revenue

By A. E. Mockler
New York Bureau, The Oil and Gas Journal

NEW YORK, Sept. 1.—Early development of Irak petroleum resources, with resultant swelling of already excessive world petroleum production totals, is looked for in the near future, according to reports from abroad this week. Hitherto, the situation in Irak has been under the control of world leaders in the industry, including Royal Dutch-Shell and Standard Oil Co. of New Jersey, and these companies have pursued a policy of withholding extensive development in Irak until stabilization of the world petroleum position has been achieved. This policy, it is now indicated, has met with strong disapproval in Irak and negotiations have been undertaken with other interests for immediate exploitation of oil deposits in that country.

Large deposits of petroleum are reported in Irak and indications are that the country could be developed as a major factor in the world petroleum industry.

Irak first came into prominence as a potential world factor in petroleum in 1912 when Turkish Petroleum, Ltd., acquired from the Deutsche Bank a concession granted by the old Turkish government to prospect for oil over an area of 90,000 square miles in Mosul and Bagdad vilayets, Irak. The outbreak of the World War forced an interruption in this exploration work, but in 1925 a 75-year concession was obtained from the new Irak government which allowed a three-year period for survey and selection of 24 plots of 8 square miles each. A five-year extension was granted in June, 1928.

Ownership and development under this concession is about evenly divided among four large oil groups. These groups are the D'Arcy Exploration Co., Ltd., Anglo-Saxon Petroleum Co., Ltd., (a subsidiary of the Royal Dutch Co. and Shell Transport & Trading Co.); Compagnie Francaise des Petroles, and the Near East Development Corp. This last named holder in the group is jointly controlled by five American companies, Atlantic Refining Co., Gulf Oil Corp., Pan American Petroleum & Transport Co., Standard Oil Co. of New Jersey, and Standard Oil Co. of New York.

Turkish Petroleum Co. has conducted some development work on its properties thus far. Production has been proven in the Baba Gurhur area and a gusher was reported brought in on the Mosul Field flowing 3,600 metric tons of oil in three days, and with an estimated capacity of 3,600,000 metric tons per year.

Despite several successful completions, however, there has been no tendency on the part of the participants in Turkish Petroleum Co. to rush development work at any stage.

King Feisal Takes Hand

Some weeks ago King Feisal of Irak was reported in London negotiating for the injection of new interests into the oil situation in his country and since that time it is reported that British interests have formed a company which is negotiating for a concession similar to that held by the Turkish Petroleum Co., now known in some quarters as Irak Petroleum Co.

King Feisal, in a statement relative to the negotiations, pointed out that the Irak Petroleum Co., which took over the original concession from the old Turkish Petroleum Co., has not as yet exercised its privileges. Other interests, he said, are advocating that the rights of the Irak Petroleum Co. be limited and others given an opportunity to undertake development work. The Irak government, he said, is not unfavorable to these suggestions. American, British, Dutch and French companies have one-quarter interest each in Irak Petroleum Co.

King Feisal, it is said, expected his country's royalties from the Irak company would amount to about $5,000,000 annually. But so far he has received very little, because the companies have not begun to pump oil in any large-scale operations.

The king complains that the Irak Petroleum Co. is delaying development because it is convinced the oil supply of that country is so rich that if it were suddenly made available it would create a great oversupply in the world markets and depress prices, so they are holding it in reserve.

That does not help King Feisal, because Irak wants revenues now and oil is her chief resource. So the king is said to have been convinced by his advisers that the Irak Petroleum Co.'s monopoly is not absolute as to the entire country and that various oil areas in Irak are still at his disposal.

It is now asserted the king seeks to induce financial interests in England and on the Continent to organize a new oil company to do business with him on the basis of a 25 per cent royalty and to start operations as soon as possible.

A representative of the interests which are already in possession of Irak oil said that the delay in operations in that country had been due entirely to physical causes, such as the lack of adequate transport facilities.

"We are working as fast as we can to provide these facilities," he said, "but until we have pipe lines to take the oil to the seaboard there is no sense in taking it out of the ground. As to the monopoly arrangement, the Irak Petroleum Co. has exclusive rights in certain areas and prior rights in certain areas and prior rights of selection in all other areas."

Rival Company Formed

The London Petroleum Times, commenting on possible Irak oil developments, summarizes the situation editorially as follows:

"Reports have been current from time to time that the government of Irak is dissatisfied with the delay of the four-power Irak Petroleum Co. in selecting the 24 areas, each of 8 square miles, to which it is entitled, and with the postponement of the decision as to the course of the pipe line to the Mediterranean, upon which future Iranian petroleum production depends. We have refrained alluding to the question, as we do not attach undue importance to efforts to assail the quasi-monopolistic position of the Irak Petroleum Co., but as the recent London visit of King Feisal lends color to the reports of serious discussions between the Prime Minister of Irak and applicants for concessions, it may not be out of place to refer briefly to the main group which is said to be interested.

"The British Oil Development Co., formed under the chairmanship of Lord Wester Wemyss, is stated to be negotiating for a concession similar to that of the Irak Petroleum Co., i.e., 24 areas, each of 8 square miles, and it proposes to build both a pipe line and a railway from the oil fields to the Mediterranean. In order better to establish its claims with the League of Nations, the company has been engaged in acquiring an international character. First of all, an invitation was issued to the semiofficial Italian oil organization, the Agenzia Generale Italiano di Petrolio, and these two groups in turn offered an interest to a German syndicate which is said to have the backing of Friedrich Krupp,

(Continued on Page 151)

Spanish Company Buys in Venezuela

Ambitious Project Aims to Enter Producing, Shipping and Refining in Conjunction With Government Oil Monopoly

By A. E. Mockler
New York Bureau, The Oil and Gas Journal

NEW YORK, Sept. 2. — Spain, for many years an important world market for petroleum products and a large buyer of American crude oil, gasoline, kerosene, and other refined products, is making plans for developing a Spanish controlled oil industry that will in time make it largely independent in the matter of petroleum supplies, according to reports from Madrid.

The Spanish Petroleum Monopoly several years ago assumed exclusive control of the petroleum business in Spain, taking over existing storage and distributing properties owned in Spain by American, British, Dutch, and other oil companies. Compensation for these seized properties has since been arranged through diplomatic channels.

Reports regarding the operations of the petroleum monopoly in Spain, however, indicate that it has been far from satisfactory, from the standpoint of both the Spanish government and of consumers in Spain, and it has been reported at various times that the monopoly would either be dissolved or that its control would pass into the hands of one or another of the leading world oil companies. The latest reports in this respect, prevalent last month, were to the effect that Standard Oil Co. of New Jersey, in conjunction with Royal Dutch-Shell, had arranged an important cash loan to be made, without interest, to the Spanish government in exchange for control of the petroleum monopoly in that country. These reports have since been denied by both the Spanish ministry and by Walter C. Teagle, president of Standard Oil Co. of New Jersey.

New Company in Field

During recent weeks, however, the attention of the trade has been attracted to the activities of the Compania Espanola de Petroleos S.A., formed late in 1929 with headquarters at Madrid. Organized with a capital of 75,000,000 pesetas, the company is authorized to acquire and exploit petroleum deposits, concessions, and other rights, to engage in shipping and refining, and to market its products.

Organization of this company in September of last year attracted little notice at the time, but it is now indicated that this concern will be the medium through which Spain will develop a petroleum industry of its own, and reports from Spain indicate that "CEPSA," as the new company is known, will in time supply Spain's entire requirements of petroleum and refined products, produced by Spanish capital and Spanish owned production, refining and shipping.

Compania Espanola de Petroleos S.A. has already acqquired valuable holdings and production in Venezuela. The company has purchased from the Falcon Oil Corp. a total of approximately 400,000 acres of potential oil lands in various states in Venezuela, including considerable acreage in proven and semiproven areas in the Maracaibo district and in the State of Monagas, both of which are important factors in Venezuela's present production picture.

Has Interest in Lago Output

In addition to this acreage obtained for developing production, the new Spanish company has acqquired a 5 per cent interest in the total production of crude oil by Lago Petroleum Corp. in the Maracaibo zone, under an agreement running until 1963. Figured on present production, this 5 per cent interest is equivalent to more than 1,000,000 bbls. of crude oil per year.

Thus, Compania Espanola de Petroleos S.A. starts with production of crude well in excess of 1,500,000 bbls. per year, Falcon Oil Corp. properties taken over by the Spanish company having production of more than 500,000 bbls. during the past year.

While plans for developing refining capacity for the "CEPSA" have not been announced, it is believed that this company is behind the new refinery being built, or about to be built, in the Barcelona district in Spain, and it is reported that other refinery construction projects are under consideration by the new company. The new company is adequately financed, its capitalization being equivalent to somewhat more than $7,500,000 in American money.

The new Spanish company will not only act as a producer, shipper and refiner of petroleum products, but will likewise import in conjunction with the Petroleum Monopoly, it is believed here, the company having entered the market for 20,000 tons of 61-63 390 endpoint naphtha for September-October-November shipment. American exporters operating in the Gulf market are now figuring on this business, but it is not believed that the American market will get the business as it is reported that the seller will have to meet a price of 8 cents per gallon.

Under present operations of the Spanish Petroleum Monopoly, American companies are credited with handling between 300,000 and 400,000 tons of the Spanish business per year, mostly gasoline, with fuel oil, gas oil, and other products coming from the Black Sea. American Republics Corp., through Petroleum Export Association, Inc., a wholly-owned subsidiary, is working on a contract to supply the Spanish Petroleum Monopoly with all crude oil requirements and not less than 25 per cent of all refined oil requirements until 1933, the contract having been entered for a five-year period January 1, 1928. Cities Service Export Co. is also handling a portion of the Spanish Monopoly's American business, while the Soviet Oil Syndicate is also one of the principal suppliers of Spain's petroleum requirements.

Advantages of Insulation on Boilers

Important Form of Operating Economy Formerly Generally Disregarded in Oil Fields. Saving Not Limited to Fuel Alone

By W. H. Meier
Chief Engineer, Atlantic Oil Producing Co., Dallas, Tex.*

The insulation of oil country boilers and steam lines is an important form of operating economy that until recently has been generally disregarded by operators and drilling contractors. Fuel gas is generally considered to be free or of small monetary value, so the natural thought follows that there is no need for conserving fuel by boiler insulation. However, by insulating boilers and steam lines, the saving is not limited to fuel only, but includes decreased maintenance and repair expense, less boiler shut down, greater volume of dry steam and longer useful life.

Three types of insulation are available for use; asbestos blankets, block magnesia and asbestos, and an insulating cement composed of silica fiber, asbestos and clay.

The blanket insulation consists of an insulating material sandwiched between two heavy thicknesses of asbestos cloth. The blanket is factory made to exact boiler dimensions and comes to the customer ready for installation. The blanket is supplied in sections that are laced together. Each opening on the boiler is provided for in the fabrication of the blanket and the raw edges of the blanket material are turned back and well secured.

Magnesia block is probably the most satisfactory and efficient type of insulation. Since magnesia is considered the "standard of insulation," it is only a matter of thickness to obtain the desired saving of heat. The blocks, 1½ inches thick, are applied directly on the boiler surface and held in place with No. 14 gauge galvanized annealed wire. Over the blocks is placed a reinforcement of 2-inch hexagonal wire mesh and then the entire surface is covered with cement. Around the manhole, hand holes and fittings the blocks should be beveled to give a neat appearance and prevent chipping on the edges. On field boilers exposed to the weather, the insulation should be protected by a quarter-inch coat of emulsified asphalt applied in one coat with a trowel.

Several cements are being used in Mid-Continent fields but only two types give good insulation. The mineral wool-asbestos cement is probably the most efficient and economical of the two. It consists of approximately 75 per cent mineral wool, from which it derives its insulating value, and 25 per cent binder, which usually consists of silica and asbestos cement.

Application of Cement

The cement should be applied while the boiler is in use and in coats approximately one-half to three-quarters-inch thick until a total thickness of 2 inches has been obtained. Each inch of insulation should be reinforced with 2-inch poultry netting, secured to the boiler with No. 16 gauge galvanized lacing wire. Care should be taken not to apply the layers of cement too thick and to give each layer sufficient time to dry before applying the next layer. The time required for proper drying depends on the temperature of the boiler; while drying, cracks will appear which can be eliminated from the last coat by trowelling.

The other comparatively efficient cement insulation is obtained by using a long fiber asbestos cement applied the same as above. This cement should be free of all chalk and sand and should be cleaned, mixed and processed by the manufacturer. The quality of this cement can be readily recognized by the length of asbestos fibers and roughness of texture.

Many field boilers are being covered with an ordinary asbestos finishing cement. In this cement, the fiber is very short and is classed by the trade as "Asbestos Sand" because of its fineness and texture. It has practically no insulating value compared with the above-mentioned materials and is intended to be used only as a finishing coat over an insulation material. After being subjected to a temperature of 350° F. or higher it cannot be reapplied because its ingredients are not heat resistant.

These materials, except the blankets

(Continued on Page 116)

*Before Southwestern district, A.P.I. Division of Production, Galveston, Tex., September 4, 1930.

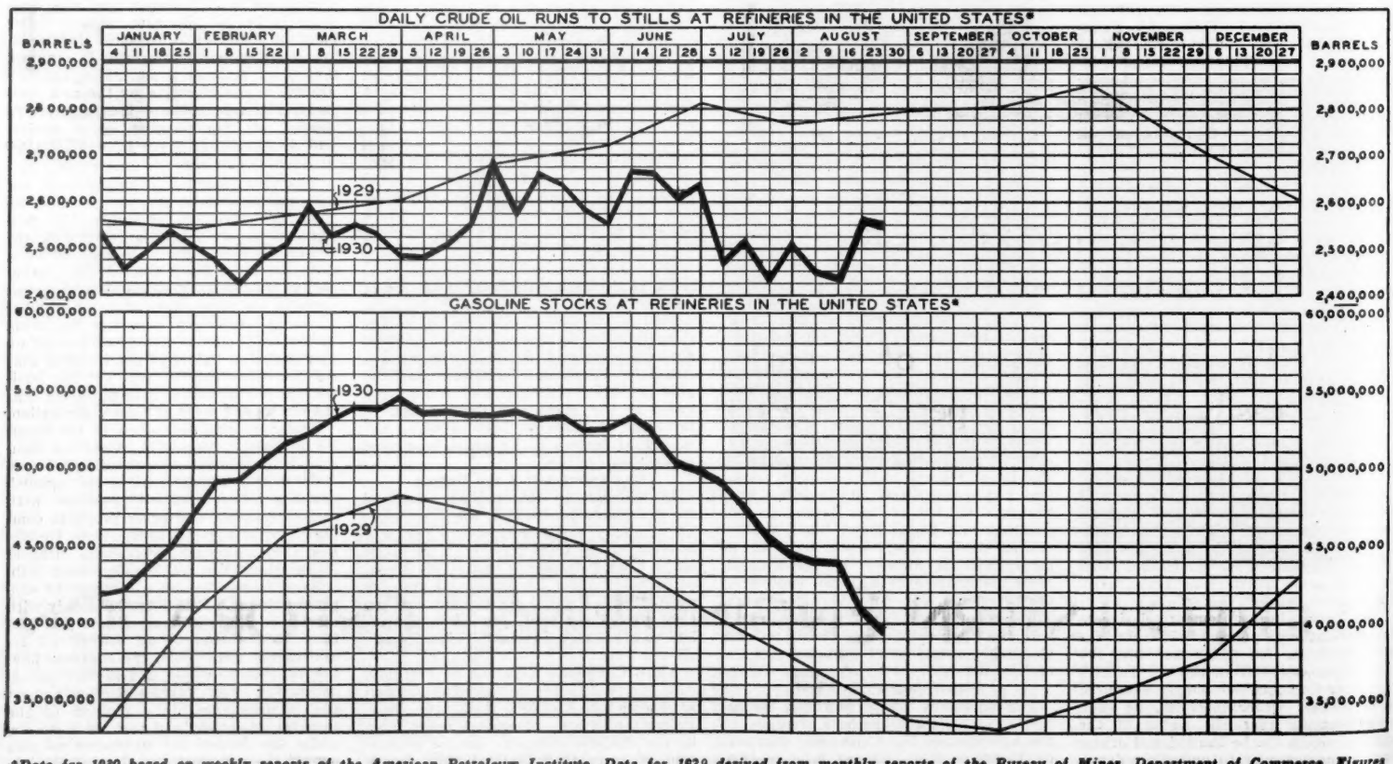
AMERICAN PETROLEUM INSTITUTE WEEKLY REFINERY STATISTICS

The weekly report made to the American Petroleum Institute on refinery statistics—crude runs to stills, gasoline stocks and gas and fuel oil stocks in barrels—for the week ending August 23:

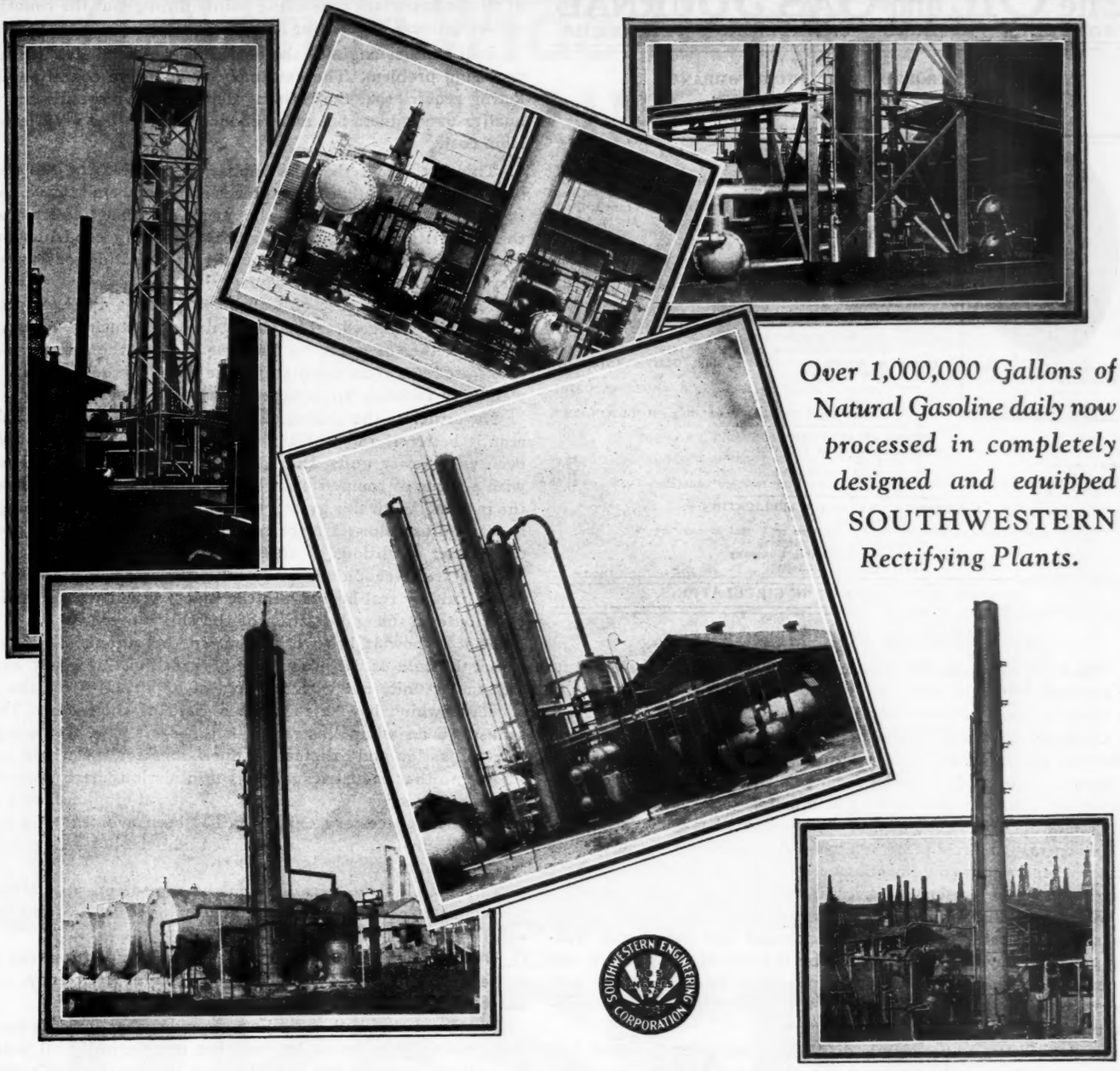
The report for the week ending August 30 was delayed because of the Labor Day holiday.

	Week ending August 23				Week ending January 4			
	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)
East Coast	100	512,600	5,585,000	10,622,000	100.0	454,857	5,998,000	7,431,000
Appalachian	91.8	89,400	1,324,000	1,014,000	91.6	75,571	1,282,000	805,000
Indiana, Illinois, Kentucky	99.6	302,800	6,356,000	4,408,000	98.6	289,800	5,483,000	3,505,000
Oklahoma, Kansas, Missouri	89.3	258,600	3,157,000	4,086,000	87.7	263,428	3,604,000	3,277,000
Texas	90.4	583,600	6,169,000	10,439,000	90.7	539,857	6,590,000	13,757,000
Louisiana and Arkansas	96.8	167,700	1,356,000	1,849,000	96.8	160,000	2,161,000	4,499,000
Rocky Mountain	93.6	63,600	2,141,000	1,212,000	93.3	41,614	2,273,000	973,000
California	99.3	573,300	13,784,000	105,562,000	99.3	642,857	14,826,000	109,770,000
Total United States	95.6	2,551,600	39,842,000	139,192,000	95.4	2,468,285	42,217,000	144,017,000
Texas Gulf Coast	100	442,900	4,927,000	7,524,000	100.0	429,585	5,579,000	10,792,000
Louisiana Gulf Coast	100	115,700	1,048,000	1,097,000	100.0	108,514	1,877,000	3,818,000

(1) Per cent of refinery capacity represented. (2) Daily crude runs to stills. (3) Gasoline stocks. (4) Gas and fuel oil stocks.



*Data for 1930 based on weekly reports of the American Petroleum Institute. Data for 1929 derived from monthly reports of the Bureau of Mines, Department of Commerce. Figures for last week not shown in graph but are included in above tables.



Over 1,000,000 Gallons of Natural Gasoline daily now processed in completely designed and equipped SOUTHWESTERN *Rectifying Plants.*

SOUTHWESTERN devoted several years of research to a study of Rectification, eliminating various methods in favor of the one finally adopted.

The result is a plant of remarkable flexibility, precise fractionation and easily controlled operation. Production can be varied to suit conditions.

Send for bulletin on "Rectification."

SOUTHWESTERN ENGINEERING CORPORATION

Branch
605 Mayo Bldg.,
TULSA, OKLA.

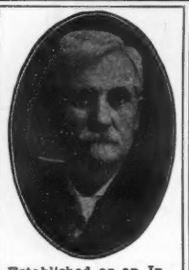
606 SOUTH HILL STREET
LOS ANGELES, CALIFORNIA

Branch
117 Liberty St.
NEW YORK, N. Y.

The OIL and GAS JOURNAL

PRODUCING REFINING ENGINEERING MARKETING

Published Weekly by
THE PETROLEUM PUBLISHING COMPANY
114-116 West Second Street
TULSA, OKLA.



Established as an International Publication in 1910 by Patrick C. Boyle.

President - - - - - - - - - - - Frank T. Lauinger
General Manager - - - - - - - - - John M. Egan
Editor - - - - - - - - - - - - James McIntyre
Managing Editor - - - - - - - - Andrew M. Rowley
Refinery Editor - - - - - - - - - - C. O. Willson
Technical Editor - - - - - Charles K. Francis, Ph.D.
Petroleum Engineering Editor - - - - L. G. E. Bignell
Associate Editor - - - - - - - - - W. T. Anderson
Associate Editor - - - - - - - - W. T. Ziegenhain
Associate Editor - - - - - - - - Thomas F. Smiley
Advertising Manager - - - - - - - - E. Klappenbach
Circulation Manager - - - - - - - Simon H. Rourke

DISTRICT ADVERTISING OFFICES
C. L. CAIN - - - - 101 Park Ave., NEW YORK CITY
L. AUSTIN DE VORE - - - - - - - - - - - - - - - - - - 6 North Michigan Ave., Room 1416, CHICAGO, ILL.
LOUIS D. WEST, 1105 Leader Bldg., CLEVELAND, OHIO
R. P. (SALTY) CLARK - - - - - - - - - - - - - - - - - 730 Petroleum Securities Bldg., LOS ANGELES, CALIF.
C. R. FARMER - 1316 Second National Bank Bldg., HOUSTON, TEX.

TERMS OF SUBSCRIPTION
(By Mail, Postage Prepaid)

Single copies	$ .15	One year (in United States)	$6.00
Three months	$2.00	One year (in Canada)	$7.00
Six months	$3.00	One year (foreign countries)	$7.00

ADVERTISING RATES ON APPLICATION
Telephone: 3-6291
Remittances by Checks, Drafts, Express or Postal Money Orders should be made payable to
The Petroleum Publishing Company
Cable address, "Oilgasnal"

MEMBER AUDIT BUREAU OF CIRCULATIONS

REASONS FOR MERGERS

The merging of smaller businesses into large units has become so common in recent years in all lines that it has come almost to be expected as a natural evolution of increasing trade.

Consolidations within the oil industry are based upon sound economic principles and in line with the trend in modern industries.

As the industry has grown from small producing, refining and marketing organizations to integrated major units it was inevitable that operating conditions should change with that growth.

In contrast to a few years ago when the financing of the various phases of operations could be measured in thousands of dollars these operations on the present scale require millions of dollars capital.

Whereas wells were formerly drilled but a few hundred feet wells are now being drilled several thousand feet and simple drilling practices have been supplanted by the use of complicated and expensive equipment so that the expenditure in drilling one well may represent a total comparable to the investment in some manufacturing plants in some other industry.

In manufacturing the simple distillation operation in which two or three products were obtained has given way to manufacturing processes with highly technical operating principles and an investment reaching into millions of dollars in a single plant.

In marketing the curb pump method of distribution has been gradually superseded by modern merchandising methods through which the oil companies with elaborate wholesale and retailing facilities have given the consumer a maximum of service as well as the best in quality of product.

Investors demand that they be protected regardless of conditions within the industry, but so far as major operations are concerned this cannot be secured by small units engaged solely in one phase of the oil industry or confined to one section. In the case of the larger concern unfavorable conditions in one section may be compensated by favorable conditions elsewhere.

The advantages that accrue from national merchandising are one of the most important factors bringing about the consolidation of companies whose operations have been limited to certain sections.

As in other lines of business buyers of petroleum products like to be able to buy their favorite brands wherever they are. The steady improvement of highways and the greater use of cars on longer trips has unquestionably produced this consumer attitude which has been impressed upon oil company executives.

Those responsible for some of the mergers already announced say that they expect to have their products available to consumers at all the important consuming points throughout the country. This makes national advertising possible.

Still another angle of the consolidation trend lies in the manufacturing problem. The extremely competitive conditions in marketing require that the refining departments not only improve the quality of products but also produce them at the very lowest possible cost.

This has meant that the haphazard practices of the past have been dropped and that the engineer and the chemist have combined in research and practical development, and that to keep pace with this scientific progress and rapidly changing conditions without prohibitive costs it has been found that consolidations were necessary to furnish the means required.

The increasing cost of transportation is a further factor that has been considered. The necessity of reducing transportation costs, whether of crude oil from the field to the refinery or of refined products from the plant to the point of consumption, lent its weight in favoring an enlarged system of operations.

Nevertheless the chance of survival for the average small operator is better if the whole industry is working on a sound basis, even with fewer units, than if he is continually obliged to battle with a horde of competitors who care nothing for demoralization of the market. With this greater flexibility, under sound management, he can adjust himself more securely and operate more profitably than under conditions of unrestricted competition.

This trend should do away with the uneconomic units which never had any real business in the industry and whose passing will contribute to the stabilization of the entire business.

That is how it has worked out in the automobile industry in which the bulk of the production is turned out by a few well operated major units but with freedom of opportunity for the smaller concerns which have a recognized field of their own. The steel industry is a similar illustration that mergers have been a big factor in stabilization and satisfactory operations for the whole industry.

As in other industries where consolidations have been effected certain economies have accrued. Wasteful duplication has been ended and unnecessary expansion has been avoided. Ruthless and reckless competition has been curbed and the business placed on a stable foundation.

In research alone consolidations have made possible efforts that would have been beyond the ability of any smaller unit with resulting general benefit.

Overproduction, the result of senseless competition, can be controlled and operations conducted on lines of efficiency, economy and conservation.

These are the facts regarding the movement towards consolidations not only in the oil business but in practically all businesses. It is idle to question this trend because it is an inevitable evolution, the certain outcome of modern development. It cannot be halted even were it advisable to attempt it. It is impossible to turn back the clock of progress. We cannot revert to the methods of a generation ago in coping with business of today's magnitude.

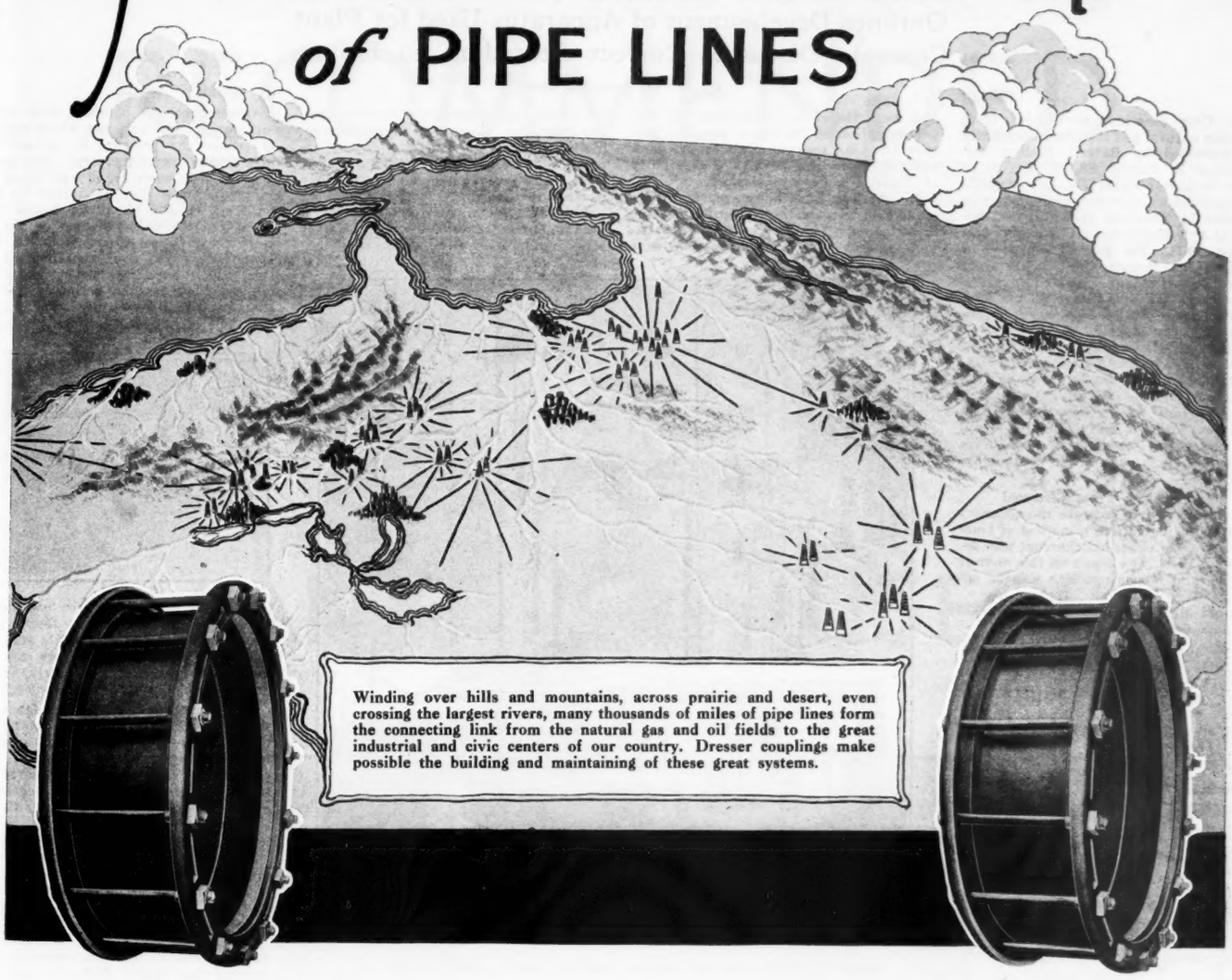
Industrial history has shown a constant upward trend. Changes that were feared at the time have proved but stepping stones to greater progress and more general prosperity.

It is not to be wondered at that many of the individual units should deem it expedient to join together with a view to obtaining the advantages of large scale operations. There were but two courses open to them: either to strengthen themselves by consolidation, or to go ahead expanding their units of manufacturing and marketing thereby adding to the duplications of facilities and the disastrous competitive conditions of which the industry has already had too much.

Viewed in that light the movement towards mergers is seen to be induced not by a desire for mere bigness but compelled by economic circumstances beyond any one's control. It is not a question of choice but of necessity.

The oil industry is simply keeping pace with the procession as exemplified by similar mergers and consolidations in practically every other line of business.

A Nation Wide Hook-Up of PIPE LINES



Winding over hills and mountains, across prairie and desert, even crossing the largest rivers, many thousands of miles of pipe lines form the connecting link from the natural gas and oil fields to the great industrial and civic centers of our country. Dresser couplings make possible the building and maintaining of these great systems.

DRESSER COUPLINGS *Dominate!*

1880 S.R. DRESSER MANUFACTURING CO. 1930
BRADFORD, PENNA.

Fractional Analyses of Light Mixtures

Outlines Development of Apparatus Used for Plant Control. Discusses Correct Procedure to Follow

By W. M. Schaufelberger*

The first practical method of fractionating natural gas into its constituents was described by Burrell, Siebert and Robertson in United States Bureau of Mines Technical Paper No. 104 in 1915. A considerably improved procedure was described by Shepherd and Porter in Industrial and Engineering Chemistry, November, 1923. The method consisted in distilling the various constituents from the condensed sample under very low pressures to take advantage of the high vapor pressure ratios between the constituents at low temperatures.

This method has never come into general use. The separations are made without reflux, and the procedure is tedious because it is necessary to redistill each fraction several times; also, the low temperatures required are difficult to control, and there is always the possibility of air leaking into the high vacuum apparatus.

Fractionation From Charcoal

In an attempt to increase the accuracy and speed of operation, a method of fractionation from activated charcoal was developed. Work was begun on this method in 1923, and it was put into routine operation early in 1926.

Liquid air was necessary for condensing the fractions, as in the Shepherd and Porter method. However, the lowest temperature to be accurately controlled was +35° C., which was adequate for the separation of ethane.

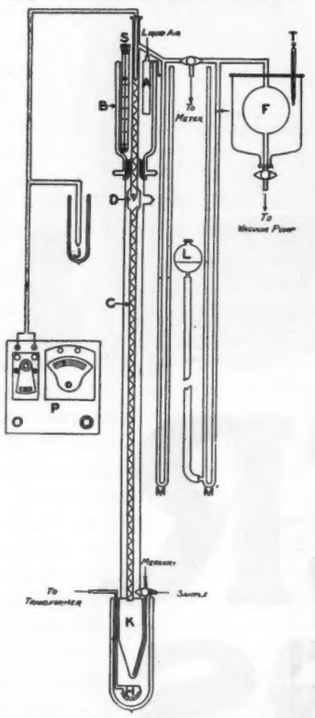


Figure 1—Gas fractionation apparatus.

The method was in routine operation for some time, during which period much valuable information on the composition of gases, as regards lighter constituents, including butane was obtained. However, the heavier constituents apparently could not be removed from the charcoal without cracking. This necessitated the determination of the fraction heavier than butane by difference, i.e., by the difference between the volume of gas measured into the apparatus and the volume of light fractions taken off. All inaccuracies were therefore concentrated in the determination of the heavy gasoline constituents. As operation was under high vacuum, there was always a possibility of inaccuracy from air leakage.

In searching for a more accurate method of analysis, fractional distillation was investigated. The results were so satisfactory that the charcoal method was finally abandoned and analytical fractional distillation substituted.

Fractional Distillation

Fractional distillation consists of the separation of a liquid mixture of two or more components into fractions by the removal of vapor from the liquid. The vapor contains a larger percentage of the more volatile components than does the liquid, and thus a separation of the mixture is obtained.

Separations may be made by many simple distillations, as witnessed by the classical researches of Sydney Young who prepared pure iso- and normal pentane from petroleum in 1896. Similarly, they may be made in a fractionating column, which is in effect a large number of simple stills in series.

Such a column consists essentially of a kettle in which the liquid is boiled, a reflux condenser which condenses the vapors reaching the top and a series of plates upon which the ascending vapors are intimately contacted with the descending reflux. A vapor line at the top serves to carry off the purified product.

Development of Apparatus

In an apparatus for precision fractionation, complete control of all factors is the first consideration. The most important factor is the prevention of heat exchange between the column and the atmosphere and conduction of heat through the column, except by interchange of liquid and vapor. This allows the column to assume the proper temperature gradient, which is absolutely necessary for efficient fractionation. Neglect of these factors has probably hindered efficient laboratory fractionation more than anything else, since it becomes increasingly important as the size of the apparatus is decreased. For preventing heat exchange, a glass column within a silvered vacuum jacket was selected.

Important factors in operation are: 1. Column pressure, which with a fixed heat input, is controlled by condenser temperature and which may be held constant at any desired point. 2. Reflux rate, which is controlled by the rate of heat input to the kettle, the maintenance of which at a reasonably high value insures kettle equilibrium. 3. Distillation rate, which is controlled directly by the rate of vapor withdrawal, and which, with a given reflux rate, determines the reflux ratio upon which the efficiency of fractionation, for a given column, depends.

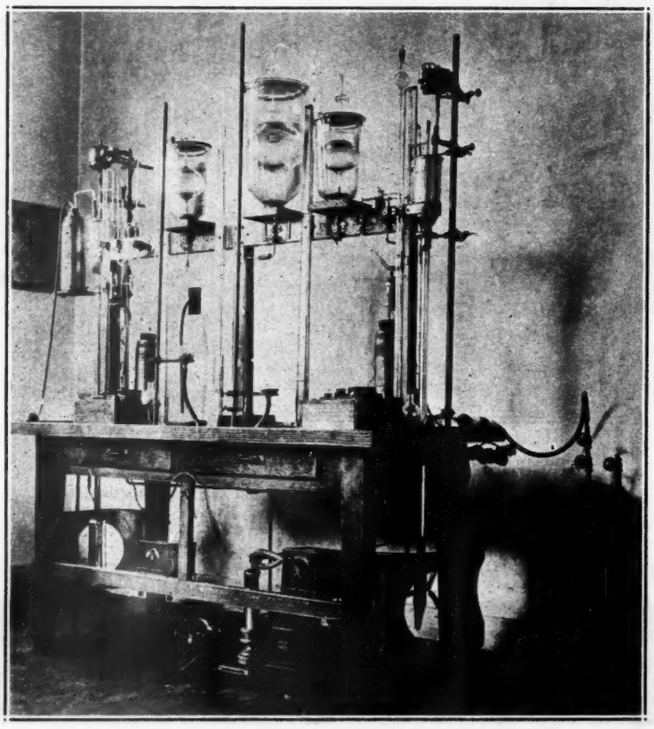


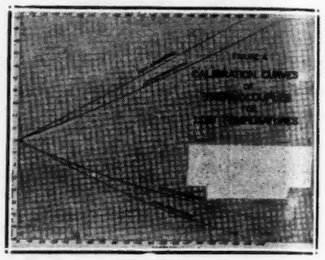
Figure 2—Double fractional analysis apparatus used for plant control work.

An explanation of some of the problems which were solved in developing an apparatus which satisfied all of these conditions will emphasize the necessity for several features which were incorporated.

(a) Vacuum Jacket: In order to construct a silvered vacuum jacketed fractionating column, it was found necessary to considerably improve upon the glass blowing and high vacuum technique developed during the work with the charcoal outfit.

The glass parts ranged in size from three-sixteenth inch to 3½ inches in diameter, and up to 36 inches in length. Special burners and electric annealing furnaces were constructed with which to work and anneal this range of sizes satisfactorily. After much experimentation the column and its reflux condenser were separated into two vacuum jacketed units as shown in Fig. 1. This facilitated the construction and repair of the apparatus and considerably increased its strength.

To make the fractionating column as nearly adiabatic as possible, a very high vacuum is necessary in the jacket. Such a vacuum may be obtained with a mercury vapor diffusion pump which will easily reduce the pressure to one-millionth of a millimeter of mercury. For permanent results, however, it was found necessary to heat the apparatus to 300° or 400° C. for about 24 hours while evacuating in order to remove the last traces of absorbed vapors from the walls of the glass and from the silvering. If this is not done, the vapors remaining gradually escape and seriously decrease the vacuum. The temperature to which the apparatus may be heated is limited by the nature of the silver coating. A silvering formula has been found which gives a coating which is quite stable up to 350° C. Copper coatings are still more heat resistant and nearly as efficient as reflectors of radiant energy.



(b) Pressure Control: A large constant temperature condensing surface is necessary for controlling column pressure with varying rates of operation. The coldest part in the system tends to control the pressure by causing condensation. If the condensing area is not sufficient to remove the heat necessary to condense the required reflux, an overloaded condition with fluctuating pressure results. For this reason, a deep condensing bath (B) with electric stirrer (S) for maintaining uniformity of temperature was designed.

A small turbine type stirrer giving positive circulation was developed for stirring the bath. Efficient open type stirrers must run very rapidly and often cause splashing of liquid and breakage of apparatus. The casing of the stirrer was constructed of glass, as an all metal stirrer conducted considerable heat into the bath, thus requiring additional liquid air for cooling. As a safety precaution, a small sparkless induction motor is used to drive the stirrer, and is usually direct connected.

(c) Reflux Rate: An attempt was made to control reflux rate by observing the degree of wetting of the packing by the reflux, but this was not satisfactory, so the reflux drip (D) was placed between the condenser and the column. It is observed through an unsilvered spot on the vacuum jacket. Reflux rate is accurately determined by counting the drops falling from this tip.

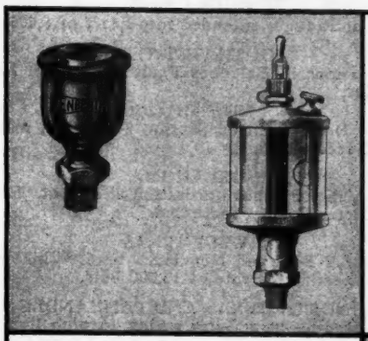
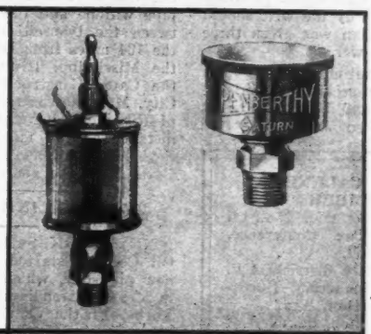
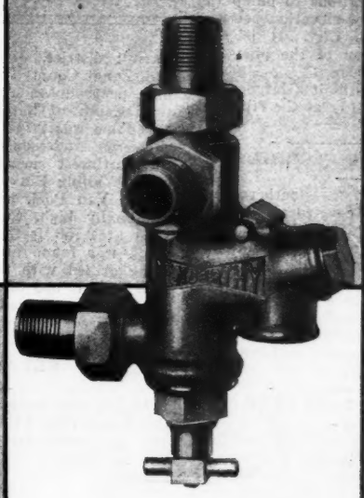
(d) Reflux Ratio: From calibrations of the tip and of the measuring flask, reflux ratio may be calculated. Control of both reflux rate and reflux ratio is essential for the efficient operation of a fractionating column.

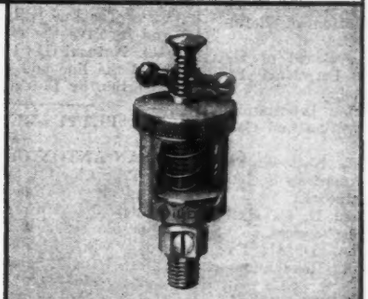
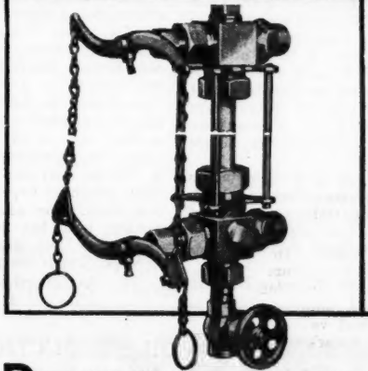
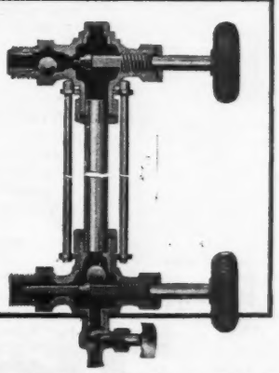
(e) Measurement of Fractions: The importance of accurate measurement of the various fractions was recognized from the start and many experiments conducted along this line. A 1-liter Bohr meter, similar to but much more accurate than the conventional wet test meter, was finally adopted for the measurement of methane when present in large amounts. A 2-liter water jacketed measuring flask is often used for ethane and sometimes for propane when a high percentage is present. All fractions for which high

(Continued on Page 163)

*Before California Natural Gasoline Association at Los Angeles, Calif.

RECOMMENDED BY MANY USERS

THESE Penberthy Products are universally used throughout the oil industry because they are consistently recommended by operating men who have long been familiar with the Penberthy record for dependable service.

They are stocked by leading supply houses.

PENBERTHY PRODUCTS

PENBERTHY INJECTOR COMPANY

ESTABLISHED IN 1886

DETROIT

CANADIAN PLANT WINDSOR, ONT.

CONTINUE JULIÁN CASE TO TUESDAY, SEPT. 9

OKLAHOMA CITY, Okla., Sept. 2.—The case of C. C. Julian, who is seeking a permanent injunction against the Oklahoma Corporation Commission interfering with him in the production of oil from leases of his company, was adjourned by the State Supreme Court until next Tuesday. The Corporation Commission asked for a dissolution of the temporary writ of prohibition granted last week. The Corporation Commission was given three days in which to file a brief showing cause why the writ should be dissolved and Julian was given three days to file an answer.

The attorney general charged bad faith on Julian's part in seeking an injunction, saying there had been a distinct understanding between Julian and the state authorities that no such action would be taken. The attorney general pointed out that Julian would benefit greatly by a continuance of the order against the commission while owners of adjoining tracts would suffer.

OIL MAN'S CALENDAR

SEPTEMBER

2-4—Toronto, Ontario, North American Gas Tax Conference, King Edward Hotel.

4-5—Southwestern district, A.P.I. Division of Production, Buccaneer Hotel, Galveston, Tex.

5—New Kensington, Pa., Test of Aluminum Alloy Tank Truck Tanks.

8-12—Cincinnati, Ohio, eightieth meeting, American Chemical Society, Hotel Gibson.

17—Columbus, Ohio, Ohio Petroleum Marketers Association, Deshler-Wallick Hotel.

17-19—Atlantic City, N. J., National Petroleum Association, Hotel Traymore.

29-Oct. 4—Pittsburgh, Pa., Petroleum Section, National Safety Council.

OCTOBER

2—Tulsa, Okla., General Committees, A.P.I. Division of Production and Marketing.

3—Tulsa, Okla., General Committee, A.P.I. Division of Refining.

3—Tulsa, Okla., Board of Directors, American Petroleum Institute, Mayo Hotel.

4-11—Tulsa, Okla., International Petroleum Exposition and Congress.

6-8—Tulsa, Okla., National Petroleum meeting, American Society of Mechanical Engineers.

6-11—Washington, D. C., sixth International Road Congress.

6-11—Washington, D. C., Exhibition, American Roadbuilders Association.

13-17—Atlantic City, N. J., American Gas Association, Auditorium.

14-16—Kansas City, Mo., Convention, Big Four State Jobbers.

16-25—London, England, Oylmpia Motor Show.

20-22—St. Louis, Mo., Petroleum Refiners division, National Association of Credit Men.

22-24—Pittsburgh, Pa., transportation meeting, Society of Automotive Engineers.

29-31—Lawrenceville, Kans., celebration twenty-fifth anniversary, Lawrence County Oil Industry.

NOVEMBER

2-5—St. Louis, Mo., Marketing Congress, Independent Oil Men of America, Statler Hotel.

6-11—Berlin, Germany, International Automobile Show.

10-13—Chicago, eleventh annual meeting, American Petroleum Institute, Stevens Hotel.

DECEMBER

1-5—Memphis, Tenn., ninth annual Asphalt Paving Conference, the Asphalt Institute and Association of Asphalt Paving Technologists.

JANUARY

3-10—New York, National Automobile Show.

24-31—Chicago, National Automobile Show.

GREAT LAKES COMPANY AWARDS TWO CONTRACTS

Contracts for construction of the Des Moines-Chicago branch of the Great Lakes Pipe Line Co.'s system were let Tuesday of this week by the Continental Oil Co. in Ponca City, Okla. Six-inch pipe will be laid the entire distance between the two cities. The contract for the 164 miles from Des Moines, Iowa, to the Mississippi River, was awarded to the Cater Construction Co., of Kansas City, Mo. The contract for the Mississippi River crossing and on to Chicago, a distance of 136 miles, was awarded to Seybold & Mitchell, of Houston, Tex. Both firms are general contractors.

BIG PIPE LINE FOR MEXICO

NEW YORK, Sept. 2.—Mexican Eagle Oil Co. has started construction of its new pipe line, which will be the largest in Mexico, extending 230 kilometers from Furbero in the Vera Cruz Field over the mountains to Mexico City. The new line will be of 10-inch pipe and will have six electrical pumping stations to pump the oil over the 8,000-foot elevation between Furbero and Mexico City. It is estimated that completion of the pipe line will take close to a year.

Mexican Eagle will built a large refinery at Mexico City to treat the oil piped in from the coast.

GAS LINE TO FLORIDA

NEW YORK, Sept. 2.—Southern Natural Gas Corp. will construct a 67-mile natural gas pipe line from Mobile, Ala., to Pensacola, Fla., making natural gas available for distribution by local gas companies at Pensacola and along the line. The line will be of 12¾-inch pipe and involves the expenditure of $1,000,000. Natural Gas Engineering Corp. will build the line and expects to have it in operation by December 1.

PETTUS-REFUGIO LINE

SAN ANTONIO, Tex., Sept. 2.—Humble Pipe Line Co. is starting construction of an oil pipe line from Pettus Field to Refugio to tie into line from there to Ingleside refinery and tank farm. Capacity will be 8,000 bbls. daily, 30 miles from Refugio northwest will be 6-inch and remainder to Pettus 4-inch. It is the first line started and will be completed in 60 days.

Late Fields

NEW MEXICO

FORT WORTH, Tex., Sept. 2.—Gypsy Oil Co.'s No. 1 Graham, in Section 24-18s-37e, topped big pay at 4,167 feet and blew out at 4,186 feet, making 150 bbls. of pipe line oil per hour with 5,000,000 feet of gas.

EAST CENTRAL TEXAS

FORT WORTH, Tex., Sept. 2.—Pure Oil Co.'s No. 1 McMahon, in the northwest corner of 48-acre farm, John Walling Survey, in the Carroll extension of the Van Pool, Van Zandt County, was completed for a slight well at a total depth of 2,831 feet. It swabbed an average of 45 bbls. per hour for the first three hours through eleven-sixteenths-inch choke. Chokes were changed and on a twenty-two-sixty-fourths-inch choke it averaged only 8 bbls. per hour on a later test.

Pure Oil Co.'s No. 1 York, on the west side of the York 40-acre farm, John Walling Survey, offsetting Humble Oil & Refining Co.'s No. 1 Ruth Star Blake, is shut down at 2,880 feet after coring hard oil sand well saturated from 2,862-80 feet.

Humble Oil & Refining Co.'s No. 2 Blake, offsetting tts No. 1 Carroll, in the Carroll district, John Walling Survey, Van Zandt County, was completed for 50 bbls. per hour on a 1½-inch choke at a total depth of 2,917 feet. Top of the Woodbine was 2,745 feet.

George Anderson's No. 1 Sanger, in the northwest corner of 200-acre farm, John Walling Survey, on the east side of the Van Pool, has been running exceptionally high, topping the Woodbine sand at 2,750 feet. Base of the second chalk was found at 2,615 feet. Plug is being drilled with total depth at 2,763 feet. This is one of the most interesting wells of the Carroll district outside of the unitized area of the Van Field.

OKLAHOMA

Eleven new wells were added to the Oklahoma City Field over the holiday. The production for the last seven days was as follows:

Date—	Prod.	Wells prod.	Comp. wells
August 27	130,200	52	461
August 28	127,978	57	466
August 29	70,399	46	473
August 30	147,251	66	474
August 31	124,025	58	480
September 1	37,821	39	481
September 2	138,306	59	482

Indian Territory Illuminating Oil Co.'s No. 1 S. Bodine, NW cor., Section 30-11-2w, was drilled to a total depth of 6,620 feet and found water. It was plugged back to 4,800-20 feet, and after a 40-quart shot started making 47,000,000 feet of gas, which blew wild for several days and was later mudded off. Connections were changed and it was brought under control.

The Deep Rock Oil & Refining Co.'s No. 1 Marshall, SW cor., Section 30-6-4, Pottawatomie County wildcat, south of the old Asher Pool, was drilling at 3,770 feet in Hunton lime with nothing showing.

Production from the Wanette Pool, in Pottawatomie County, increased on September 2, to 17,002 bbls. from 24 wells. The production has been averaging around 6,000 bbls. a day under the proration plan. The increase is due to the new potential gauges which are being taken in the pool.

Another water well was found on the south side of the Oklahoma City Field, by the Indian Territory Illuminating Oil Co.'s No. 11 Mary Sudik, NW cor. SW SW, Section 31-11-2w. The test was bailed down 4,500 feet getting a show of oil and a hole full of water from a total depth of 6,713 feet. It is the east offset to the Sinclair Oil & Gas Co.'s No. 4 School Land-67 which also got a hole full of water.

SOUTHWEST TEXAS

SAN ANTONIO, Tex., Sept. 2.—Simms Oil Co.'s No. 1 Holzmark, 10 miles southwest of Pettus and 6 miles southwest of Norman in Bee County, at 3,547 feet had core showing oil and drill stem test showed mud and some oil and gas. Casing is being set.

KANSAS

The wildcat test of M. M. Valerius and others, No. 1 Todd, NW cor., Section 24-13-27w, Gove County, in the western part of the State, is being watched with considerable interest. The 6-inch casing was landed at 3,875 feet and the test was drilling at 3,920 feet. The pay horizon is expected at 4,100 feet. Another wildcat test in the same county is Atlantic Oil Producing Co. and others' No. 1 Wright, SE cor. NE, Section 11-12-27w, which is expected to spud in in a few days. The area surrounding these wildcat tests has been active. Major oil companies have been leasing considerable acreage. These companies include Gypsy

(Continued on Page 154)

High Spots in Field News

KANSAS
Schurr Pool extended quarter mile.

ROCKY MOUNTAIN AREA
Hobbs potential above 300,000 bbls.; 73 wells drilling.

NORTH LOUISIANA
Bossier Parish well proves surprise, flowing 112 bbls. an hour.

EAST CENTRAL TEXAS
Failure in Henderson County. Three core tests in Freestone County.

GULF COAST
Deep sand area at Refugio extended into heart of 5,400-5,500 foot zone.

SOUTHWEST TEXAS
Sixteen new locations in Balcones Fault area, 10 in Laredo district and 5 in coastal counties.

NEW MEXICO
Gypsy Oil Co.'s No. 1 Graham, Section 24-18s-37e, making 150 bbls. per hour with 5,000,000 feet of gas.

OKLAHOMA
State production slightly above proration allotment. Potential production in Tatums Field, Carter County, increased.

WEST TEXAS
Area between Leck Pool and Hendricks Pool, Winkler County, looming large. Well flows at estimated rate of 13,000 bbls.

NORTH TEXAS AND PANHANDLE
Moore County leading in activity owing to pipe line and expiration of leases within few months. Possible new pool in Young County. Southeastern Archer County getting play.

SCORE CARD ON OIL PRODUCTION

Below is shown allotted average daily production in the United States, April to December, inclusive, suggested by the Committee on Economics of the Federal Oil Conservation Board, and the actual daily average production during the week ending August 30.

	Allotted (bbls.)	Actual (bbls.)	Over (bbls.)	Under (bbls.)
California	610,000	603,000	.....	7,000
Oklahoma	655,000	573,555	.....	81,445
Texas	750,000	823,702	73,702	.....
Other fields	480,000	472,895	.....	7,105
Total	2,495,000	2,473,152	73,702	95,550

Net underproduction 21,848 bbls. per day.

SAFETY
THE FIRST CONSIDERATION

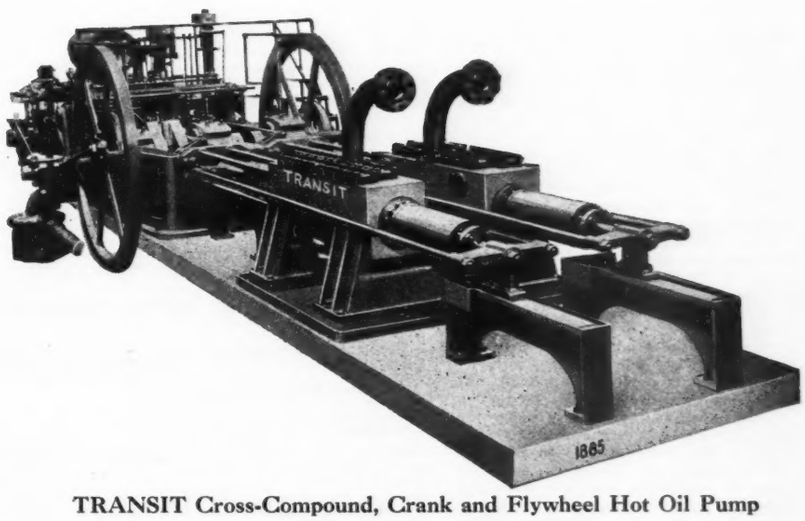
The first consideration in designing TRANSIT Hot Oil PUMPS has always been SAFETY.

Fifty years as builders to his majesty, The Oil Industry.

Leading as usual, the procession in the manufacture of Pumps for that difficult and discriminating service of handling Hot Oil.

The type of TRANSIT Flywheel Pump illustrated below is showing a very decided saving in fuel along with a remarkably uniform flow.

Many installations in this country and Canada.



TRANSIT Cross-Compound, Crank and Flywheel Hot Oil Pump

Descriptive literature by addressing Home or District offices.

Agents

FRICK-REID SUPPLY CORPORATION
Tulsa, Okla., or any store.

REPUBLIC SUPPLY COMPANY
of California
Los Angeles, California

E. L. WILSON HARDWARE CO.
Beaumont, Texas.

NATIONAL TRANSIT
Pump & Machine Co.
Oil City, Pa.

DISTRICT OFFICES

NEW YORK PHILADELPHIA PITTSBURGH
CLEVELAND HOUSTON TULSA LOS ANGELES

Agents

F. C. RICHMOND MACHINERY CO.
Salt Lake City, Utah.

REEVES & SKINNER MACHINERY CO.
St. Louis, Mo.

Oklahoma Output Shows Slight Gain

Daily Average for Last Week in August 573,500 Bbls., 23,500 More Than the Allowed Production Under the Proration Plan

By W. A. Spinney
Staff Correspondent, Oklahoma Fields

Oklahoma production for the week ending August 30, gained approximately 6,000 bbls. a day. The daily average for the State was 573,500 bbls., 23,500 bbls. in excess of the 550,000 bbls. to which the operators committee petitioned the Corporation Commission to keep the State's production from September 1 to October 1.

Potential production of the Tatums Field in Carter County was increased by approximately 3,700 bbls. during the week. The development in several districts is being delayed by water shortage. A large number of tests are shut down owing to lack of water and others will be shortly unless some relief from the situation is found. The present potential production of the Tatums Field is approximately 8,700 bbls. a day. The allowed production under the new order issued by the Corporation Commission effective from September 1 to October 1, is 2,500 bbls. a day.

The gas lift is aiding production in the Amerada Petroleum Corp. and Dixie Oil Co.'s extension well in Section 29-9-6, southeast of the East Earlsboro Pool. This well is separated from the East Earlsboro Pool by a ring of dry holes and many express the opinion it may open a new producing area. The well, located in the NW cor. NE SW, Section 29-9-6, made 2,405 bbls. on the air gas lift in 23 hours compared to 1,560 bbls. the previous 13 hours.

Another area in the Seminole group that is being actively developed is in Section 2-8-5 and Section 3-8-5, Carr City district. Several tests are drilling and others being started.

The proration schedule for the Oklahoma City Pool from September 1 to October 7 allows 5.55 per cent of the potential production as follows: All wells in the eight classes will be allowed to produce 16 hours out of three days during the period. The class A wells will be open September 1, 13 and 25. Class B wells will be open September 2, 14 and 26. Class C wells will be open September 4, 16 and 28. Class D wells will be open September 5, 17 and 29. Class E wells will be open September 7, 19 and October 1. Class F wells will be open September 8, 20 and October 2. Class G wells will be open September 10, 22 and October 4. Class H wells will be open September 11, 23 and October 5.

The potential production of the Oklahoma City Field was estimated to be 2,000,000 bbls. a day, on August 30. At the same time the potential production of wells shut in for 65 days under the proration plan was estimated at 1,000,000 bbls. if they were allowed to flow the full 24 hours each. Under the proration plan the production has been averaging around 120,000 a day, which is in excess of the pipe line shipments, which are 85,000 bbls. a day maximum. The above potential production figures make the Oklahoma City Field the second largest high gravity pool in the world, surpassed only by the Yates Pool, in Pecos County, Texas.

The first test to find large production in the shallow sand was blowing wild in the Oklahoma City Field. The Indian Territory Illuminating Oil Co.'s No. 1 S. Bodine, NW cor., Section 30-11-2w, southeast diagonal offset to the discovery well in the Oklahoma City Field, suddenly came to life Friday, August 29, after being regarded as a dry hole when drilled to a total depth of 6,628 feet, where only a show of oil and a lot of salt water was found. The hole was plugged back to 4,820 feet and given a shot. Gas production resulted and the well was shut in to make a pipe line connection. Friday, August 29, the well broke loose and was estimated to be making 50,000,000 feet of gas which surprised the owners. All nearby drilling operations were shut down and it caused blocking of all roads in that part of the field. The well is located on one of the principal roads into the pool.

The cause of the blowout was found to be that the sand had eaten through the connections below the master gate and as the escaping gas increased in pressure the blowout in the pipe became larger and it was necessary to open the master gates to relieve the pressure on the damaged section. New connections will be installed after the old ones have been removed.

Other wells on this lease have been disappointments. The first well completed on the lease showed for a small producer and then went dead. Two other wells were completed on the lease, but only one of these was placed in the producing column. The wild well may result in the development of the shallow horizons in the Silicious lime area of the field.

Mid-Kansas Oil & Gas Co.'s No. 1 Messer, SW cor., Section 32-14-3w, a wildcat west of Edmond, in Oklahoma County, has cored a showing of oil in the Wilcox sand at 6,704-10 feet.

Prairie Oil & Gas Co.'s No. 1 Dills, SE cor. NW, Section 17-13-3w, a wildcat north of Oklahoma City, has plugged back to 6,630 feet and will test the gas showing at that depth. The well was drilled to a total depth of 6,862 feet and found water.

Mid-Kansas Oil & Gas Co. has announced another location in the Nicoma area east of the Oklahoma City Field. The same company has completed two failures after drilling in the discovery well. The new location is the east offset to the discovery well and is located in the NW cor. NE, Section 19-12-1w.

Two tests in the south end of the field are being plugged and abandoned after finding water in the deep horizon. Sinclair Oil & Gas Co.'s No. 4 School Land 67, in the NE cor. SE SE, Section 36-11-3w, was drilled to a total depth of 6,930 feet and then plugged back and shot three times. Prairie Oil & Gas Co.'s No. 1 Sudik, Section 5-10-2w, Cleveland County, is being abandoned at a total depth of 6,896 feet, without plugging back to test.

Cromwell-Franklin Oil Co.'s No. 1 Lincoln Park, SW cor., Section 12-12-3w, on the east edge of Oklahoma City, was drilled to a total depth of 4,535 feet and is being abandoned. The company expected to find production in the Tonkawa series, which was topped at 4,300 feet but failing to find commercial production in the shallow sand it will not be drilled to the Wilcox sand.

The Sinclair Oil & Gas Co. has completed seven 80,000-bbl. storage tanks in the south end of the field in Section 6-10-2w, Cleveland County. The company plans to build twenty-seven 80,000-bbl. tanks on the same location. It is the first tank building in the Oklahoma City Pool since it was discovered.

Indian Territory Illuminating Oil Co. is nearing completion on its second gas lift plant in the south Oklahoma City Field. The plant is located on the Fox lease in the southwest quarter of Section 14-11-3w. The company has four combination gas lift units now in use. The gas lift units are being used in connection with the gasoline plants. The new plant on the Fox lease has twenty 90 horsepower compressors capable of handling 40 wells under the present method of proration and seven or eight wells without proration. The plant is expected to be in operation in about two weeks. It will handle about 8,000,000 feet of gas daily. The company has also started construction work on its electric generating unit at the Button gasoline plant.

The Indian Territory Illuminating Oil Co.'s No. 1 Mary Sudik, NE cor. SW, Section 31-11-2w, which blew wild for 11 days and was shut in and completed March 26, 1930, has been shut in since that time. The well was estimated to have made while blowing wild approximately 350,000 bbls. of oil of which 200,000 bbls. was recovered.

The Tom Slick Oil Co.'s No. 1 Campbell, in approximately NE cor. SE NE, Section 3-11-3w, on the east edge of the city limits of Oklahoma City, ranks as the largest well completed in the north end of the pool. Its gauge of 13,875 bbls. the first eight hours gives the well a potential of 40,000 bbls. a day. Some express the opinion the well increases the chances of finding large production in the south part of Oklahoma City on city lots. The well was shut in after the tankage on the lease had been filled. The well extended production about a quarter of a mile to the west. The other wells completed in the vicinity were much smaller averaging around 5,000 bbls. a day.

Operators in the Oklahoma City Pool completed 18 wells the first five days of the week ending August 30. Marco Oil Co.'s No. 1 Holder, SE cor. SW, Section 2-11-3w, in the north end of the field, blew out the cement around the 6-inch casing and flowed 90 per cent water the first hour. It was tested again the next day and made 275 bbls. of oil the first hour and no water. It made 2,600 bbls. of oil in 18 hours and was shut in. Independent Oil & Gas Co.'s No. 1 Harrell, NE cor. SW SW, Section 2-11-3w, made 1,150 bbls. in 13 hours. Indian Territory Illuminating Oil Co.'s No. 8 S. Peterson, SW cor., Section 25-11-3w, made 4,396 bbls. the first 22½ hours. Skelly Oil Co.'s No. 1 Tanner, SE cor. NE, Section 10-11-3w, on the west side of the field, made 2,790 bbls. the first 13 hours. Tom Slick Oil Co.'s No. 2 Atkinson, C N half SW NW NW, Section 1-11-3w, made 1,839 bbls. the first two hours and 10,338 bbls. in 14¾ hours and 61,000,000 feet of gas. Indian Territory Illuminating Oil Co.'s No. 1 Williams, NE cor. NW, Section 23-11-3w, made 4,132 bbls. in 17 hours. Tom Slick Oil Co.'s No. 2 Ainsworth, SE cor. NE, Section 10-11-3w, made 1,665 bbls. the first eight hours. Anderson Prichard Oil Co.'s No. 1 Pest House, SW cor. NW, Section 1-11-3w, made 10,165 bbls. the first 21 hours. Indian Territory Illuminating Oil Co.'s No. 8 Johnson, SW cor. SE NE, Section 25-11-3w, made 581 bbls. the first 14 hours. Tom Slick Oil Co.'s No. 3 Baker, NW cor. SE NW, Section 1-11-3w, made 3,155 bbls. the first 13 hours. Indian Territory Illuminating Oil Co.'s No. 1 Brown, made 3,705 bbls. in 12 hours. Wirt Franklin Petroleum Corp.'s No. 3 Wright, SW cor. NE NE NW, Section 2-11-3w, made 6,796 bbls. the first 10 hours. Skelly Oil Co.'s No. 3 Ainsworth, NE cor. SE, Section 10-11-3w, made 1,115 bbls. the first 11 hours. Tom Slick Oil Co.'s No. 4 Frost Heights, NE cor. SE SE, Section 10-11-3w, made 4,368 bbls. the first 19½ hours. Indian Territory Illuminating Oil Co.'s No. 1 Handel, NW cor. SW, Section 11-11-3w, flowed 1,824 bbls. the first 15 hours. Same company's No. 1 Eacock, NW cor. NE, Section 11-11-3w, flowed 1,351 bbls. the first 16¾ hours. Same company's No. 2 Carrico, SE cor. NE NW, Section 14-11-3w, made 3,497 bbls. the first 16½ hours. Same company's No. 7 S. Peterson, SW cor. SE SW, Section 25-11-3w, flowed 6,612 bbls. the first 22¼ hours.

Washita County, in the south central part of the State, is being leased in large blocks by several of the major oil companies. The early leasing play started about three months ago and at that time was centering around the Shell Petroleum Corp.'s block of about 4,000 acres in Townships 9-13w, and 9-14w. Active leasing has been underway around the J. S. Cosden Oil Co.'s block in Township 11-14w. Some of the active areas are Townships 10-17w, 10-18w, 11-17w and 11-18w. A large block is being assembled in Township 9-16w, and others in Township 9-20w, in the western part of the county. The principal owners of leases in the county are the Shell Petroleum Corp., Magnolia Petroleum Co., Independent Oil & Gas Co., J. S. Cosden, Inc., Kingwood Oil Co., Gypsy Oil Co., Deep Rock Oil & Refining Co., Darby Oil

(Continued on Page 128)

WILDCAT OPERATIONS IN OKLAHOMA

(Descriptions are East and North unless marked otherwise)

NORTHERN OKLAHOMA

ALFALFA COUNTY

Company, farm and location—	Remarks:
Smith Brothers' No. 1 Forbes, SE cor. NW NW Sec. 12-27-11w	Shut down 1,232 ft.
J. W. Bailey's No. 1 Acre, SW cor. NE Sec. 14-24-11w	Rigging up standard tools 4,660 ft.; cleaning out.

BECKHAM COUNTY

Ray Johnson and J. R. Cuniff's No. 1 Brower, C NW Sec. 29-10-22w	Shut down 3,784 ft.
Producers Exploration Co.'s No. 1 Sidell, SE cor. SW SW Sec. 17-9-22w	Shut down 2,402 ft.
Carson et al's No. 1 Danby, SW cor. SE NE Sec. 20-8-22w	Drlg. cement plug 1,594 ft.

BLAINE COUNTY

Washoma Oil Co. et al's No. 1 Phillips, C NW SW Sec. 13-19-10w	Shut down 3,730 ft.

CADDO COUNTY

Simms Pet. Co.'s No. 1 Cobsa, SW NW Sec. 24-6-11 w	Rig.
W. J. Hartley's No. 1 Galbreath, SE cor. NW SE Sec. 29-5-12w	Shut down 3,394 ft.

CHEROKEE COUNTY

Weaver & Proctor's No. 1 Benge, NE SE Sec. 8-14-21	Shut down 510 ft.

CLEVELAND COUNTY

Harris et al's No. 1 Highbee, SE NW Sec. 20-6-1	Shut down 6,518 ft.
Daniels & LeWright's No. 1 Vandever, C SW Sec. 15-7-1w	Shut down 3,130 ft.

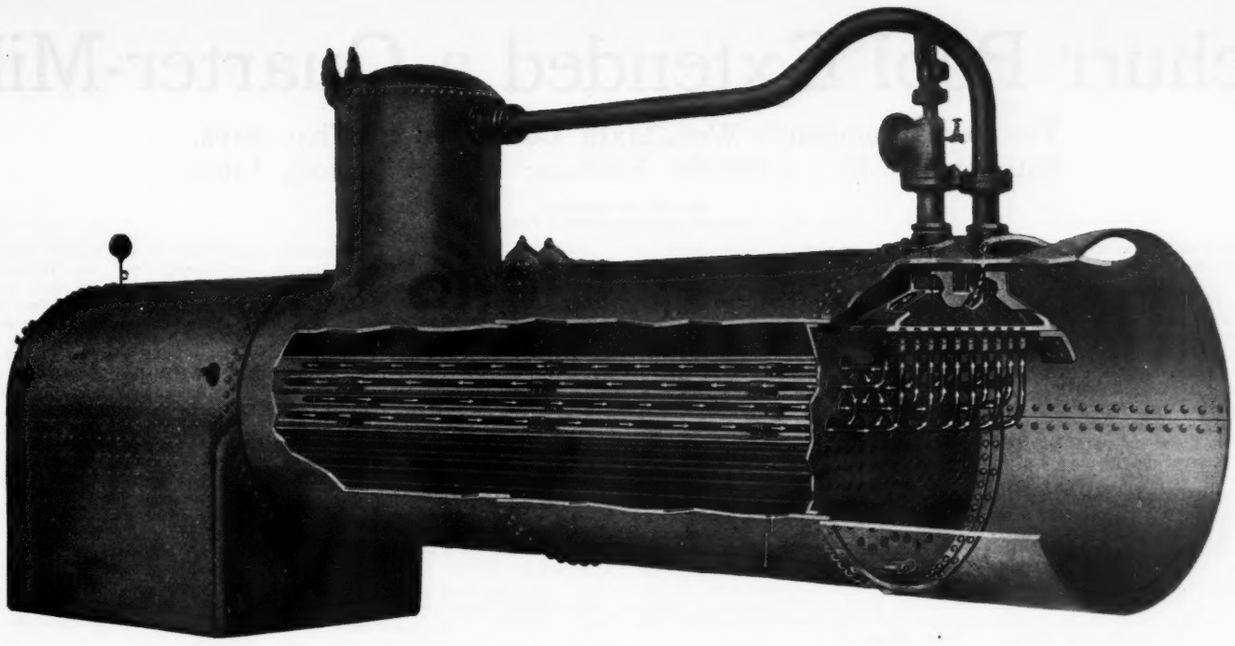
COAL COUNTY

A. M. Van Orden's No. 1 Jamison, SE NW Sec. 31-1-9	Shut down 1,600 ft.
Blackwell O. & G. Co.'s No. 1 L. Jackson, NW cor. Sec. 26-3-9	Drlg. 3,541 ft.
W. E. McGraw's No. 1 King, C SW NE Sec. 11-1-8e	Shut down 3,030 ft.

COMANCHE COUNTY

Croy & Young's No. 1 Cline, NW NE NE Sec. 8-3-10w	Rig.
Shasta Oil Co.'s No. 1 Romwalt, SW NW Sec. 11-2-10w	Shut down 1,709 ft.

(Continued on Page 171)



Boilers Made Better

—By *Elesco* Superheaters

OIL-COUNTRY boilers equipped with Elesco superheaters provide high-degree superheated steam which makes available dry, high-temperature steam for more effective use in the drilling rig. To do the same work less steam is required or steam at a lower pressure can be used, or more work is done by the steam generated. Improvement in boiler performance is reflected in the following ways.

Superheating the steam reduces the duty of the boilers because of the lowered steam consumption of the pumps and engines and the elimination of pipe and cylinder condensation losses. Less water need, therefore, be evaporated with a corresponding decrease in the amount needed for the boilers. It naturally follows that scale formation will be correspondingly reduced, a better heat transfer effected and cleaning costs lowered. Thus the boiler can be in operation for longer periods of time at increased capacity and efficiency.

An Elesco superheater-equipped boiler will produce the same power with less fuel than it would without a superheater. The additional heating surface of the superheater provides a greater absorption of heat, lowers the uptake gas temperature and thus gives a higher boiler efficiency.

These better operating conditions due to the use of superheated steam, increase the capacity, efficiency and life of the boiler.

Check these economies for yourself by sending for Bulletin T-20 which contains full data on 18-day comparative tests, made under actual field conditions, between saturated and high-degree superheated steam operation.

Consult the supply company representing any of the following manufacturers of oil-country boilers equipped with Elesco superheaters:

The Broderick Company, Muncie, Ind.
Donovan Boiler Works, Inc., Parkersburg, W. Va.
Farrar & Trefts, Inc., Buffalo, N. Y.
Kewanee Boiler Corporation, Kewanee, Ill.
Lucey Manufacturing Corporation, Chattanooga, Tenn.
Oil Well Supply Co., Oil City, Pa.
The Titusville Iron Works Co., Titusville, Pa.

THE SUPERHEATER COMPANY,
60 East 42nd Street,
New York City

Gentlemen: Please send me a copy of Bulletin T-20, "The Elesco Superheater for Oil-country Boilers".

Name .....
Position .....
Firm Name .....
Address .....
9-4-30

THE SUPERHEATER COMPANY

60 East 42nd Street, NEW YORK

Peoples Gas Building
CHICAGO

ELESCO

Union Trust Building
PITTSBURGH

A-498

Schurr Pool Extended a Quarter-Mile

The Texas Company's Well, Sixth Completed in That Area, Estimated to Be a 1,500-Bbl. Producer in the Silicious Lime

By W. A. Spinney
Staff Correspondent, Kansas Fields

The Schurr Pool in Rice County, Kansas, was extended a quarter of a mile west last Friday by The Texas Company's well in the SE cor. SW NW, Section 21-20-10w, which is estimated to be a 1,500-bbl. producer. The well, the sixth completed in the Schurr Pool, filled 2,000 feet with oil from the Silicious lime at 3,335-51 feet. It swabbed 500 bbls. the first five hours and was then shut in for tankage. After a swabbing test the well will be shut in under the proration plan governing the area and pending a pipe line connection.

The Schurr Pool now has a proven east and west length of three-quarters of a mile, but it is only two locations wide in a north and south direction. A recent attempt to extend it a half mile south was unsuccessful. Some express the belief the pool may be one of the largest Silicious lime pools in the State.

The new potential production of Kansas has been increasing and it is estimated that the shut-in production in the State now amounts to approximately 75,700 bbls. The different areas included in the shut-in production are: Voshell Pool in McPherson County, 50,000 bbls. a day; Rice County, including the Schurr Pool and the new wildcat well in Section 33-18-9w, 9,500 bbls.; Eastborough Pool, Sedgwick County, 8,500 bbls.; Ritz Pool, McPherson County, 4,200 bbls.; Lygrisse Pool, Sedgwick County, 2,000 bbls., and scattered areas in the State, 1,500 bbls. The State has been producing about 114,000 bbls. a day.

The Voshell Pool is being curtailed to about 9,300 bbls. a day, which is the daily pipe line outlet. The operators took new potential gauges in the Voshell and Ritz Pools on September 1.

Will Drill to Simpson

The eleventh well to reach the chat pay horizon in the Eastborough Pool was not showing enough to make a test and will be drilled to the Simpson sand. This is Fisher & Lauck's No. 4 Trustee, SE cor. SW SE, Section 19-27-2, Sedgwick County, which had the top of the chat at 2,937 feet with a showing of oil. It was deepened to 2,955 feet with practically no increase in the oil showing, which was estimated at 35 bbls. a day. The well is the north offset to the Vickers Petroleum Corp. and others' discovery Simpson sand well within the pool area. The same operators' No. 3 Trustee, NE cor. NW SE, Section 19-27-2, is flowing 25 bbls. an hour. The well has a potential of 50 bbls. an hour if swabbed.

On the south side of the Eastborough Pool, in Sedgwick County, Fisher & Lauck's No. 1 Shaffer, NW cor. SE NW, Section 30-27-2, is being completed in chat at 2,949-71 feet. It swabs 20 bbls. an hour and is estimated to be a 450-bbl. well.

The first test drilled on one town lot in the Eastborough Townsite Pool was staked by Siegel, Lancaster & Van Marter's No. 1 Townsite, Lot 7, in approximately NE cor. SW NE, Section 19-27-2. The location is about 900 feet north of the Derby Oil Co.'s No. 1 Eastborough, a 750-bbl. well in the same section. The test is on a 1-acre tract and the Derby Oil Co. owns all the surrounding acreage in the northeast quarter. Rig material and tools were being moved on to the location.

Derby Well Expected to Be Second

The second well to reach the Simpson sand in the Eastborough Pool is expected to be the Derby Oil Co.'s No. 1 Rimel, NW cor. NE NE, Section 30-27-2. It landed the 8-inch casing at 3,231 feet, where it was cemented, and standard tools will be installed. It is the east offset to the discovery well in the pool.

Work & Covell are starting the thirtieth test in the Eastborough Pool at No. 1 Freeman, NE cor. NW, Section 19-27-2, on a 10-acre tract, a quarter mile west of the National Refining Co. test.

The thirty-second oil test was started in the Eastborough Pool in the week. It is Blankenship Petroleum Co.'s No. 1 Schott, SE cor. SW NE, Section 24-27-1, near the city limits of Wichita. The location is about 600 feet from the east edge of Wichita.

Sunray Oil Corp. and Gardner Petroleum Corp.'s No. 1 Neal, SE cor., Section 29-31-1w, Sumner County, is the third well completed in the Peasel Pool. It is swabbing 75 bbls. a day from the chat at a total depth of 3,690 feet.

T. K. Simmons' No. 1 B. Greenwood failed to extend the production in the Patterson Pool in Greenwood County. The test was the east offset to the discovery well in the area drilled by Aladdin Petroleum Co. in Section 19-22-11. Only a trace of oil was found in the Bartlesville sand at 2,105-25 feet. It may be abandoned without a shot. The Empire Oil & Refining Co.'s No. 3 Greenwood, south of the Simmons test, Section 19-22-11, had 53 feet of Bartlesville sand where the oil rose 100 feet in the hole and it is estimated to be a 50-bbl. well after a shot.

Boucher Oil Co.'s No. 1 Christiansen, NW cor., Section 22-22-11w, Stafford County, was shut down repairing a boiler at 3,580 feet, where a showing of oil was found in sandy lime. The other wildcat test in the county, the Mid-West Exploration Co.'s No. 36 Richardson, SE cor., Section 36-22-12w, passed up the gas showing at 3,298-3,304 feet and to test the other formations on this location was drilling in the Oswald at 3,435 feet.

Activity Forecast in Barton County

Northeastern Barton County promises to become one of the active areas in the western part of the State in the next few months. The area first became attractive when the Prairie Oil & Gas Co.'s No. 1 Davidson, in Section 4-16-11w, a wildcat, was completed as a 350-bbl. well from the Silicious lime at 3,332-40 feet. The first offset has been started by the Syndicate Oil & Gas Co.'s No. 1 Pieron, SW cor. NE, Section 4-16-11w, on the north of the discovery well. The acreage was secured from the Twin State Oil Co. Syndicate Oil & Gas Co. plans to drill another test offsetting the discovery well to the west on acreage obtained from the Deep Rock Oil & Refining Co. The area is believed to be another pool that may yield large wells.

A new producing area may be opened by the Slick, Pryor & Lockhart, Darby Petroleum Corp. and others' No. 1 Heiken, an Ellsworth County wildcat in NW cor., Section 25-17-10w, with the finding of what is estimated to be 6,000,000 feet of gas at 2,980 feet. The gas was found in the Oswald lime after it had been penetrated about 100 feet. There was no showing of oil but the operators plan to drill the test deeper and test out the lower formations. The wildcat test was drilled on a core-drilled structure on what is believed to be a part of the Ellsworth Arch. It is the second showing of gas found in the test. The first was found at 2,500 feet, and was estimated at 2,000,000 feet. It came in the top of the Topeka lime.

Patton Pool Curtailed

The Patton Pool in the Burden area, Cowley County, is being curtailed. Operators in the area have agreed to prorate the wells by producing each well in the daytime only and shutting in at night, and not to drill any unnecessary tests. No time limit was put on this method of proration. The only wells that will be drilled are those that will be necessary to protect short-time leases. It is the first agreement of this kind in the State. All the present producing wells in the area are producing from the Bartlesville sand.

Another area that may yield large wells is the Burton district where the new Patton Pool is being developed. Three new wells are being completed, Johnson & Lewis' No. 1 Orr, NE cor., Section 30-31-6, Cowley County, was swabbing and flowing 30 bbls. an hour and was estimated to be a 600-bbl. well from the Bartlesville sand. The other two tests were Slick, Pryor & Lockhart and others' and Dan Patton and others' which were being shot and cleaned out. All appear to be good wells.

Slick, Pryor & Lockhart and others' No. 1 Headley, SW cor., Section 20-21-6, the east offset to the discovery well, flowed 102 bbls. of oil in 12 hours from sand at 2,855-2,936 feet. Dan Patton and others' No. 1 Sitton, NW cor., Section 29-31-6, flowed 255 bbls. of oil in 12 hours from sand at 2,858-2,940 feet.

McPherson County Has 109 Wells

McPherson County has a total of 109 completed wells with a potential of 60,000 bbls. a day. Ninety-nine of these wells made 14,900 bbls. on the pump, while 10 were shut in. The Voshell Pool has 90 completed wells and the rest were scattered in the county.

The Gypsy Oil Co.'s No. 1 C. Stuckey, SE cor. NE, Section 33-20-3w, in the north end of the Voshell Pool, McPherson County, had the Wilcox sand at 3,406-17 feet, and the first 18 hours it swabbed 279 bbls. It may be drilled deeper in the sand before being completed.

Gypsy Oil Co.'s No. 1 Koch, SE cor. NE NW, Section 35-20-9w, a wildcat in the southwestern part of Rice County, had water in the Silicious lime at 3,420-21 feet. The location is about 8 miles southeast of the Schurr Pool.

A showing of oil was found in a Marion County wildcat test, the Dixie Oil Co. and Arkansas Fuel Oil Co.'s No. 1 Hacker, NW cor. NE, Section 6-17-1, less than a mile from the McPherson-Marion County line. It found a showing of oil in the chat. The top of the chat was found at 2,720 feet and the oil at 2,726-31 feet and again at 2,739-44 feet, where it is shut down to make a production test.

Seeking to extend the production in the Fox-Bush area in the southern part of Butler County, National Refining Co. and others' No. 1 Hedderman, in Section 24-28-5, was nearing the pay horizon. Empire Oil & Refining Co.'s No. 102 Koogler, in Section 20-26-5, swabbed 75 bbls. in 12 hours from the Simpson sand at 2,498-2,502 feet.

Butler County

Ramsey Petroleum Co. is rigging up for their No. 1 Ramsey, SW cor. NW, Section 8-24-5. Hammer and McLean is spudding in on their No. 1 Marshall, SW cor. SW, Section 9-27-6. Ligget and others' No. 1 Gunther, SE cor. NE NW, Section 29-26-7, has been completed for 70 bbls. in sand 2,783-94 feet.

Cowley County

Trees Oil Co.'s No. 3 Estes, C NE NW, Section 12-32-6, made 1,500,000 feet of gas in sand 2,471-93 feet, total depth 2,494 feet. Roth & Faurot's No. 1 Adams, SW cor. NE NE, Section 19-32-8, has been completed for 1,000,000 feet of gas in sand 1,780 feet after plugging back from 3,042 feet.

Chautauqua County

The Prairie Oil & Gas Co.'s No. 1 Cunningham, NW cor., Section 17-32-11, has been abandoned in lime 2,159 feet.

Elk County

Aladdin Petroleum Co. and others' No. 1 Dimkleberger, SW cor. SE NW, Section 34-29-10, has been abandoned at 1,985 feet.

Greenwood County

Aladdin Petroleum Co. and Phillips Petroleum Co.'s No. 2 Harris, SW cor. NE SW, Section 19-22-11, is drilling at 200 feet. No. 5 Jones, NW cor. SE NW, Section 36-24-10, is a rig on ground. Empire Oil & Refining Co. and others' No. 2 Johnson, CEL NE NE, Section 8-25-13, is a machine on ground. McGinnis and others' No. 6 Mock "B," SW cor. NE, Section 36-24-10, has been abandoned at 1,941 feet. Mid-Continent Petroleum Co.'s No. 1 Geist, NW cor. SW, Section 33-25-13, has been abandoned in sand 1,735-42 feet.

Harper County

Atkinson and Amerada Petroleum Co. and Dixie Oil Co.'s No. 1 Misak, SE cor. SE, Section 25-34-6w, is a location.

McPherson County

Darby Petroleum Co. and Shell Petroleum Corp.'s No. 1 Bishop, C NW SW, Section 15-18-1w, has been abandoned in lime 3,398-3,415 feet.

Rice County

Tatlock and Shell Petroleum Corp., Empire Oil & Refining Co. and Carter Oil Co.'s No. 1 Ploog, C SW SE, Section 33-18-9w, has been completed for 723 bbls. in lime 3,249-53 feet. McPherson Oil & Gas Co., Devonian Oil Co. and Shell Petroleum Corp.'s No. 1 Jennings, NE cor. SW NW, Section 29-18-6w, has

(Continued on Page 138)

WILDCAT OPERATIONS IN KANSAS

(Descriptions are East unless marked otherwise)

BARBER COUNTY

Company, farm and location—	Remarks:
Barbara Oil Co.'s No. 1 Hamblin, SW NW Sec. 24-33-13w	Fishing 4,487-4,508 ft.; 30,000,000 ft. gas; swabbing casing.
Phillips Pet. Co.'s No. 1 Powell, SE cor. SE Sec. 11-32-10w	Drlg. 4,685 ft.

BARTON COUNTY

McCool et al's No. 1 Tsern, SW SE NE, Sec. 12-20-11w	Spudding.
Slick and Prairie's No. 1 Rude, SW cor. Sec. 11-16-13w	Drlg. 3,135 ft.

BUTLER COUNTY

National Ref. Co.'s No. 1 Settergren, NW cor. Sec. 32-26-4	Rig.
McCulloch and Empire's No. 1 Lilley, SW NW NW Sec. 23-23-5	Drlg. 350 ft.
Farrell et al's No. 1 Sutton, NW cor. Sec. 18-28-7	Drlg. 830 ft.
Gypsy Oil Co.'s No. 1 Osborne, NW SE Sec. 22-26-3	Drlg. 2,500 ft.
Joe Liggett's No. 1 Guanther, C SE NE NW Sec. 29-26-7	Drlg. 2,785-93 ft.; swab 65 bbls. oil and 35 bbls. water.

CHAUTAUQUA COUNTY

Leighty et al's No. 1 Carr, NW SE Sec. 5-33-9	Drlg. 350 ft.

CLARK COUNTY

Watchorn's No. 2 Morrison, NW NE Sec. 20-32-21w	Drlg. 6,530 ft.

CLAY COUNTY

Crystal Oil et al's No. 1 Tivier, SW cor. Sec. 19-8-2	Shut down 1,810 ft.

COFFEY COUNTY

McGregor's No. 1 Wood, NE NW SW Sec. 20-22-15	Drlg. 650 ft.
Roberts et al's No. 1 Hay, SW SE NW Sec. 32-22-15	Fishing 1,100 ft.

COWLEY COUNTY

Tom Fine's No. 1 Boyd, NW NE Sec. 32-32-4	Shut down 2,650 ft.

(Continued on Page 172)

Automobile engines are color blind

Let gasoline be water white, brown, yellow or amber — they don't care for fashions

They want a gasoline that starts quick and burns, at high speed or low, without racking them to pieces — without knocking

Dubbs cracked gasoline is that kind In volatility and knock rating it is excellent

The engine doesn't draw the color line

Universal Oil Products Co
Chicago, Illinois

Dubbs Cracking Process
Owner and Licensor

Bossier Parish Well Proves a Surprise

Harry Morgan and Shreveport-El Dorado Pipe Line Co.'s No. 2 Kendricks, Mile South of Production, Flows 112 Bbls. an Hour

By D. H. Bancroft
Staff Correspondent, Louisiana-Arkansas

SHREVEPORT, La., Sept. 1.—The biggest surprise this part of the oil country has had in some time was Harry Morgan and Shreveport-El Dorado Pipe Line Co.'s No. 2 Hendricks, SE SE, Section 22-19-11, approximately a mile south of the shallow production in the Bellevue district of Bossier Parish. With dry holes between it and the shallow field opened in 1921 and gas wells from the same horizon from which it is producing, the well started showing wet gas August 23 which increased in volume. On August 26 it was estimated good for 500 bbls. of 45 gravity oil and 20,000,000 feet of gas from oolitic lime of the lower cretaceous at 1,792-1,800 feet. It was open for an hour and flowed 112 bbls. or, at that rate, 2,688 bbls. per day and the gas had practically disappeared.

Samples taken from top and bottom of oil in the tank tested 50.3 gravity and 48 per cent gasoline. Gas production, were well wide open, is estimated at 20,000,000 feet. Standard Pipe Line Co. is building a mile of tap line to the location to tap production and meanwhile the owners are building derrick for No. 3 Kendrick in the NE cor. NW of the same section, which is on the southwest flank of the Bellevue Dome. Crude from the 350-400-foot original Bellevue pay was 19 to 21 gravity and classed with Gulf Coast Grade A. The level from which this well is producing correlates in a general way with the gas and oil horizon reached in the deeper wells in Cotton Valley and Pine Island, and the gas is R. W. Norton's 5,500-foot wildcat on the Hill farm in Section 33-23-16, Caddo Parish, and Triangle Drilling Co.'s deep gas in Sugar Creek district of Claiborne Parish.

About the same time Ohio Oil Co.'s No. 1 Payne in Section 12-5-1e, Rankin County, Mississippi, in the Jackson gas area blew in while coming out with core barrel, knocking the derrick man out of the derrick causing fatal injuries and running wild for five days. Closed in, it is estimated good for 40,000,000 to 60,000,000 feet of dry gas with the bottom at 2,394 feet, 3 feet in the chalk which is the producing horizon in the Jackson area at present. It was the only completion in the field during the week but eight more locations were made in the Hinds County side of the field and one in Rankin County.

Disposition of the gas from the 13 producers completed during the last few months, totaling approximately 200,000,000 feet open flow, is the question uppermost in the minds of operators at present but it is quite likely that the Southern Natural Gas Co., through the Mississippi Light & Power Co., its distributing agency in the State, will run a feeder from the field to its 18-16-14-inch line branching from the Louisiana-Atlanta main line to supply central and southern Mississippi communities. Meanwhile Jackson municipal authorities have taken a stand against town lot drilling, which is not to be permitted. The city stands right on top of the Jackson structure.

Lenz and others' No. 1 Johnson, Section 24-15-26, Miller County, Arkansas, is reported from Texarkana as pumping at the rate of 476 bbls. daily, but no one is allowed on the tanks to gauge them. This, coupled with the other reports on its production which range from 65 bbls. to 200 bbls. is confusing. The well is listed as a completion at 2,847 feet pumping 100 bbls. of 29.5 gravity oil. Locations for two more wells and arrangements to deepen one of the Lenz preceding operations were reported last week in addition to which the East Texas Oil & Gas Co. is reported to have location 3 miles northwest of the discovery well on the C. M. Hervey estate land in Section 2-15-26.

Nichols and others' No. 1 McDermott in which the Triangle Drilling Co. and Ruston Drilling Co. have taken a half interest and will finish is still waiting for a new rig, the derrick having been toppled by wind. Meanwhile Carter & Dobbs have made location for No. 1 White in the SE SE, Section 9-18-6, and Olds & Smith have derrick up for No. 1 Brice in the SE SE, Section 15-18-6, the three locations defining a triangle about 2 miles long on each side thought to include the possible producing area indicated by the Nichols well which showed 35.5 gravity oil on drill stem test at 2,281-2,358 feet. Both new wells are being drilled by Arkansas interests. S. P. Borden and others' No. 1 Thomas in the NW NW, Section 27-16-9, was dry on drill stem test at 1,990 feet and is drilling below 2,000 feet.

Magnolia Well Abandoned

Magnolia Petroleum Co.'s No. 2 Roberson in Section 26-23-12, Carterville district of Bossier Parish, was abandoned as a dry hole at 2,950 feet where it had swabbed 5 bbls. of oil after a shot following an unsatisfactory drill stem test in the deeper sand at 3,184 feet. The Texas Company's No. 15 Wilkinson in Section 36-23-12, on the other hand, flowed 45 bbls. at a total depth of 3,176 feet, and the company is deepening No. 1 Pine Woods Lumber Co., Section 25-23-12, after a gas show estimated at 2,500,000 feet in the original pay at 2,663 feet.

Louisiana Gas & Fuel Co.'s No. 4 Skannal, Section 13-17-12, Sligo district of Bossier Parish, a few miles south of Shreveport, gauged 8,867,000 feet of gas at 625 pounds from the shallow pay at 1,749 feet.

The Falcon Drilling Co.'s No. 1 Miller, Section 29-20-15, Mooringsport district of Caddo Parish, was a dry hole at 2,365 feet and is abandoned. No. 1 Oden in Section 19-19-14, a Dixie district wildcat that showed oil when drilled by I. N. Pharis and others to 2,409 feet, then taken over by the Falcon, drilled to 2,475 feet and turned back to the original owners, is reported standing almost to the top in oil and Pharis and associates plan to standardize it. The Texas Company's No. 5 Leonard fee in Section 29-20-15, Mooringsport, was completed as an 8-bbl. pumper at 2,350 feet.

Two of three wildcats in Catahoula Parish were written off during the week when National Oil & Gas Co.'s No. 1 Kirkland, Section 35-9-1n, got more salt water at 3,124 feet than it showed on a previous test—with which there was a little gas—at 3,079 feet; and Nick Barbare and others' No. 1 McGraw in Section 30-10-9e, was abandoned as a duster at 3,200 feet. It had a small show of gas with salt water at 1,152 feet. These wells are west and north, respectively, of A. C. Glassell's potential gasser on the Mississippi River in Concordia Parish.

Frank Melat and others' No. 1 Schryver in Section 35-14-13, DeSoto Parish, a little over 2 miles east of production in the Holly district, pumped 5 bbls. from 2,819 feet, about an average depth for Holly producers, and was the first and rankest wildcat to show production in that area. J. W. Clark's No. 1 Platt, Section 23-13-14, 4 miles southwest of Holly production and 2 miles south of Odell & Lawton's gasser in Section 11-13-14, is an abandoned hole at 3,003 feet where it tested dry after a show of oil at 2,840-56 feet. Arkansas-Louisiana Pipe Line Co.'s No. 2 Johnson, Section 7-11-13, Spider district, a few miles south of Mansfield, was dry and abandoned at 3,200 feet.

Production

Daily average production of the various pools in this area during the past week follows:

North Louisiana

Caddo, light	9,360
Caddo, heavy	2,550
Homer	3,520
Haynesville	4,750
DeSoto-Red River	3,030
Elm Grove	470
Bellevue	640
Cotton Valley	1,985
Urania	5,240
Pleasant Hill	560
Sarepta-Carterville	3,320
Zwolle	4,340
Holly	1,025
Total	40,790
Total last week	41,490
Difference	700

Arkansas

El Dorado	4,210
Smackover, light	5,080
Smackover, heavy	37,260
Stephens	910
Nevada	1,000
Lisbon	940
Champagnolle	4,240
Bradley	65
Mount Holly	90
Urbana	910
Total	54,705
Total last week	55,055
Difference	350
Total both states	95,495
Total last week	96,545
Decrease	1,050

Three Other Wildcats Stir Interest

Three other wildcats developed showings which created a ripple of interest. Burnham and others' No. 1 Hood in Section 3-11-14, also in the old Spider district, was showing oil while bailing 500 feet off bottom at a total depth of 2,360 feet, with the bottom 8 feet in sand. The Gulf Refining Co.'s No. 1 Dry, Section 14-11-15, southwest of Spider, had a gas blowout estimated at 250,000 feet at 3,056 feet, but went on and is drilling at around 3,200 feet. Odell & Lawton ce-

(Continued on Page 138)

LOUISIANA-ARKANSAS PROVEN AREAS

NORTH LOUISIANA
BOSSIER PARISH—BELLEVUE

Company, farm and location—	Remarks—
H. T. Morgan et al's No. 3 Kendricks, 1,120 ft. N, 1,120 ft. E, SW cor., Sec. 22-19-11	Location.

BOSSIER PARISH—CARTERVILLE

Company, farm and location—	Remarks—
Del.-La. Dev. Co.'s No. 6 Bollinger, 330 ft. S, 220 ft. W, NW cor., Lot 17, in Lot 16, Sec. 31-23-11	Hole full oil; W.O.S.R; 15 ft. broken sand; T.D. 3,217 ft.
Greenwood Prod. Co.'s No. 2 Bollinger, 990 ft. W, 330 ft. S, NE cor. NE SE, Sec. 36-23-12	Cmtd. 6⅝-in. 3,138 ft.; 5 ft. sand; W.O.S.R. 3,173 ft.
O. L. Hickman's No. 4 Bain, 330 ft. N, 330 ft. E, SW cor. NW, Sec. 31-23-11	Began drlg. Aug. 16; cmtd. 10-in. 135 ft; drlg. 2,600 ft.
Magnolia Pet. Co.'s No. 2 Matlock, 330 ft. S and W, NE cor. SE SW, Sec. 25-23-12	W.O.S.R. 3,188 ft.
Palmer Corp.'s No. 2 Roberson, 330 ft. N, 330 ft. E, SW cor. NW NE, Sec. 26-23-12	Derrick.
The Texas Co.'s No. 1 Pine Woods Lbr. Co., 1,650 ft. S, 300 ft. E, NW cor., Sec. 25-23-12	Est. 2,500,000 ft. gas 2,663 ft; arranging to deepen.
The Texas Co.'s No. 2 Hy Rose, 965 ft. E, 425 ft. N, C, Sec. 31-23-11	O.W.D.D.; began drlg. July 22; drlg. shale 3,147 ft.; old T.D. 3,075 ft.; cmtd. 4½-in. 3,148 ft.; T.D. 3,174 ft.
The Texas Co.'s No. 14 Wilkinson, 990 ft. N, 990 ft. W, SE cor. SE NW, Sec. 36-23-12	Began drlg. Aug. 22; cmtd. 10-in. 183 ft; drlg. 2,612 ft.
Tippett Drlg. Co.'s No. 3 Holmes, 330 ft. N, 330 ft. E, SW cor. NE NW, Sec. 36-23-12	300 ft. oil in hole; waiting on power; T.D. 3,180 ft.

(Continued on Page 159)

WILDCAT OPERATIONS IN LOUISIANA-ARKANSAS

NORTH LOUISIANA
AVOYELLES PARISH

Company, farm and location—	Remarks—
R. E. Tippett's No. 1 Chateline, NE NE, Sec. 34-1n-3e	Cored S.W. sand 3,140-47 ft.; drlg. S.W. sand 3,400 ft.; S.D. 3,410 ft.

BIENVILLE PARISH

Carter & Dobbs' No. 1 White, 330 ft. N, 330 ft. W, SE cor. SE SE, Sec. 9-18-6	Location.
W. A. Nichols et al's No. 1 McDermott, 660 ft. S, 660 ft. W, NE cor. NE NE, Sec. 28-18-6	D.S. test 2,281-2,358 ft.; 1 fourble mud; 10 ft. oil; S.D. for csg.
S. P. Borden's No. 1 Thomas, 330 ft. S, 330 ft. E, NW cor., Sec. 27-16-9	D.S. test 1,990 ft. dry; drlg. 2,000 ft.
Olds & Smith's No. 1 Brice, 330 ft. N, 330 ft. E, SW cor. SE SE, Sec. 15-18-6	Derrick.

BOSSIER PARISH

Andrews & Daveline's No. 1 Nattin, 100 ft. N, 250 ft. W, C, Sec. 15-22-14	S.D; W.O; 20 ft. broken sand; T.D. 1,501 ft.
Autrey Oil Co.'s No. 1 Johnson, 1,120 ft. N, 200 ft. E SW cor. NW, Sec. 34-19-11	Began drlg. July 25; S.D. for fuel 60 ft.
Autrey Oil Co.'s No. 1 McDade, 200 ft. S, 200 ft. E. C, Sec. 28-19-11	Cored limy shale, streaks sand 1,820 ft.
H. I. Morgan's No. 2 Kendrick, 1,120 ft. N, 1,520 ft. E, SW cor., Sec. 22-19-11	Est. 25,000,000 ft. gas, 500 bbls. oil 45° oil 1,792-1,800 ft; waiting on gauge.
Triangle Drlg. Co.'s No. 1 Bollinger, C SE SE, Sec. 36-23-13	Drlg. 2,850 ft.

CADDO PARISH

L. B. Mawk's No. 1 Swann, 440 ft. N, 200 ft. E, SW cor., Sec. 23-21-14	S.D. for fuel; T.D. 700 ft.

(Continued on Page 107)

Much Activity in Balcones Fault Area

Sixteen New Locations Announced in the Last Week, Compared With 10 in Laredo District and 5 in Coast Counties

By B. D. Stevenson
Staff Correspondent, Southwest Texas Fields

SAN ANTONIO, Tex., Sept. 1.—The Balcones fault region east of San Antonio seems to total about as much general activity as any area in Southwest Texas. There were 16 new locations announced in the Balcones area during the last week compared with 10 in the Laredo district and 5 in the coast counties. There were seven completions in the area, six in the coast counties and eight in the Laredo district. There were five abandonments in the Balcones region to one in the coast and four in the Laredo district. The fact that the operator does not have to drill so deep has always operated favorably for the Balcones fault region.

Pettus Region

Most of the completions in the Pettus area last week were in the townsite area. They were: Houston Oil Co.'s No. 1, Block 23, for 450 bbls.; Houston Oil Co.'s No. 1, Block 33, for 300 bbls.; Houston Oil Co.'s No. 1, Block 35, for 400 bbls., and C.R.M. Oil Co.'s No. 1, Block 34, for 750 bbls.

Glasscock Brothers also completed their No. 1, Block 24, for a big gasser spraying oil, but changed their minds, killed the well, drilled deeper into the sand and were about ready to bring it in again. They want oil.

Ed Price's No. 1 Weiss, off southeast of Pettus production and in a new producing spot all by itself, has been previously reported a gasser but with no information on production. It is now estimated at 10,000,000 feet.

In the Balcones fault counties all the producers completed were small shallow wells in the Dobrowolski Pool, 8 miles southeast of San Antonio, excepting Abercrombie's No. 9 Dix-McKean in the Darst Creek Field, reported with an initial production of 500 bbls.

Five producers in the Escobas-Muckelroy Pool added 330 bbls. initial production and no new territory. Of the other three, two were gas wells completed by the South Texas Production Co., one being the No. 4 Dinn at the south end of the Kohler Field in Section 143 for 20,000,000 feet of gas at 1,717 feet, and the other the No. 3 Benavides at the south end of the Cole gas field for 25,000,000 feet of gas at 1,767 feet. Humble Oil & Refining Co. got a 15-bbl. oil well in its No. 48 Kohler in Survey 172 in Duval County in the Kohler Field.

Dry Hole in Guadalupe

Cranfill & Reynolds abandoned their No. 1 McIntyre, south of Seguin in Guadalupe County, which was the only abandonment of a test in the Balcones fault region that had attracted unusual attention. It got the Austin chalk high but got sulphur water in the Edwards lime. There is still room in the county south of Seguin for a pool and wildcatting will not stop entirely. Suttle has started his No. 1 Baenziger in that country now and it is getting the attention. It is not yet deep enough to tell much but probably will be the coming week.

In the Bee County territory the Arkansas Fuel Oil Co.'s No. 1 Kimball, in the vicinity of the Grayburg discovery well, came through as an abandonment, but it was known before that it was dry and must be abandoned.

The feature of interest in the Grayburg area, 7 miles southwest of the Pettus Townsite, is the reinstatement of the Grayburg discovery well. It was reported that it would have to be abandoned. However, the company cemented the tools and drilled past them and at the close of the week was down on top of the sand at 3,547 feet and fixing to set casing. This well is the No. 1 Kimball and has been carried by some as the A-1 Kimball. It came to the attention of the industry first early in June as a wildcat 7 miles from production that 600 feet of oil on a 4½-minute drill stem test. It was finally completed late that month and reported as a 500-bbl. well but had trouble continuously and the company has been trying ever since to complete it, but with a lot of stuff in the bottom of the hole was unable to do so. Now if the company can do a good job of setting the new string of casing it looks as though it would have a well after all.

In the meantime, some dry holes have been drilled both east and west of it at a quarter of a mile distance and Hewitt's No. 1 Mauldin, located three-quarters of a mile southwest of it, late in the week had reached a total depth of 3,596 feet and had 20 feet of dry sand with a little indication of sulphur water. Its elevation is a little higher than the Grayburg well, but it is right at the place where it must get production if in the same sand at the discovery well and did not look encouraging.

Brooks County Wells

A completion that attracted attention is Ed East's No. 1 B. Garcia, in the southwest corner of Brooks County. It was completed early in the week at 1,109 feet for 23,000,000 feet of gas. A few years ago W. W. Jones, a ranchman, was drilling for water in that part of the country and at about 1,200 feet got a 10,000,000-foot gas well. Ed East's No. 1 Garcia is about 6 miles west and slightly north of it. About 6 miles south of these two gas wells the big block of acreage that the American Maracaibo explored recently, drilling eight shallow and two deep tests. The Texas Company, Magnolia and some others grabbed acreage around in that country where there is all the appearance of a structure.

The Lasater Pool discovered by the Houston Oil Co. is in the northwest corner of the county and about 20 miles due north of Ed East's No. 1 Garcia.

The northwestern corner of Brooks County also got some attention after several months of dragging when the Humble Oil & Refining Co.'s No. 2 Singer, 6 miles south of the Lasater discovery well, got a strong showing of gas at 4,767-73 feet and had to weight down the mud before trying to set casing. The first string of casing got hung up and the last reports were the company was trying to run a smaller string inside of the first.

Also the Houston Oil Co.'s No. 2 Wormser-Holbien, located about 3 miles south and a little west of the discovery well, tested 400 feet of oil on a drill stem test at 3,616 feet, 4 feet into sand. The Lasater discovery well was a gas well at about 4,110 feet.

The Humble Oil & Refining Co.'s No. 2 Singer is only a short distance from the No. 1 Singer which was lost at around 4,000 feet.

New Locations

Among the new locations for the week are five in the Darst Creek Field by the Gulf Production Co. and three in Bastrop County. There has been continued interest in the northern part of Bastrop due to the performance of the Andrews Petroleum Co.'s No. 1 Brundage drilled in 1926. The farm owner drilled a hole in the casing and the well has been making some oil now for two or three weeks. It had been plugged and abandoned and capped in 1926. Some of the major companies have bought rather extensively, paying as high as $15 an acre for leases in that area.

In the northern part of Guadalupe County near Staples Miller & Calhoun's No. 1 Linberger at 942 feet is underreaming and will set casing at about 912 feet to make a test of a showing of oil in the Austin chalk. It looks as though it might make a well.

In Comal County, 1 mile southeast of new Braunfels, a local company is down below 1,506 feet and at about 1,500 feet went out of the Edwards lime. This test is towards the Balcones from the Luling Field and has used the rock bit from 40 feet down. The Edwards was dry and the next thing is what the Glenrose will do and whether it will find other formations in place or run into granite.

SOUTHWEST TEXAS

	Bbls.
Branyon	23
Bruner	16,462
Buchanan	170
Chapman	11,245
Dale	274
Darst Creek	45,592
Kingsville	130
Larremore	30
Luling	9,950
Lytton Springs	770
Manford	300
McMullen	32
Medina	22
Mirando	11,351
Pettus	5,852
Saxet	75
Somerset	1,532
Yoast	355
Total	104,165
Week ending August 23	107,926
Decrease	3,761

COMPLETIONS

Kohler Pool—Duval County

Humble Oil & Refining Co.'s No. 48 Kohler, 990 feet south line, 475 feet east line, Survey No. 172; total depth 1,770 feet, 15 bbls. and salt water. South Texas Producing Co.'s No. 4 Dinn, 660 feet north line, 660 feet east line, Survey 143; total depth 1,717 feet, 20,000,000 feet of gas.

Cole Pool—Webb County

South Texas Producing Co.'s (Humble) No. 3 S. Benavides, 150 feet northeast line, 150 feet northwest line, Block 429, Myrtle E. Hale Subdivision; total depth 1,767 feet, 25,000,000 feet of gas.

Jennings-Muckleroy Pool—Zapata County

Allied Gas Co.'s No. 6-B Trevino, 150 feet east line, 775 feet northwest line, Block 15, Survey No. 65; total depth 1,287 feet, 75 bbls. Allied Gas Co.-Allen & Morris' No. 5 Gutierrez, 4,263 feet southeast line, 1,350 feet northeast line, Share 4, Fansler partition, Comitas grant; total depth 1,279 feet, 75 bbls. Nix & Blankenship's No. 4 Montemayor, 150 feet north line, 150 feet west line, Block 1, Survey No. 64; total depth 1,286 feet, 75 bbls. S.R.C. Oil Co.'s No. 7-A Trevino, 450 feet east line, 150 feet south line, Block 16, Survey No. 66; total depth 1,296 feet, 30 bbls. Same company's No. 13-B Cuellar, 150 feet north line, 150 feet west line, Block 7, Survey No. 65; total depth 1,240 feet, 75 bbls.

ABANDONED TESTS

Jennings-Muckleroy Pool—Zapata County

Nordan-Morris and Grimm-Yakey's No. 1 M. Trevino, 510 feet north line, 150 feet west line, Block 5, Survey No. 412; total depth 1,310 feet, plugged and abandoned.

Jennings-Cuellar Pool—Zapata County

O. W. Killam's No. 3 Lopez, 460 feet south line, 160 feet west line, Block 12, Survey No. 75; total depth 1,738 feet, abandoned, dry.

NEW LOCATIONS

Kohler Pool—Duval County

Humble Oil & Refining Co.'s No. 49 Kohler, location.

Albercas Pool Webb County

South Texas Producing Co.'s No. 1 Yeager-Stroman, Morris 40-acre tract, Share 5, Las Animas grant; total depth 40 feet, drilling.

Jennings-Cuellar Pool—Zapata County

O. W. Killam's No. 1 R. Hinnant, 1,838 feet south line, 300 feet west line, Survey No. 72; spudded.

Jennings-Muckleroy Pool—Zapata County

K. D. Harrison's No. 1 Pedro de los Santos, 150 feet southeast line, 150 feet northeast line of Fansler 52-acre tract, Share 6, Comitas grant; rigging up. W. R. Shankle's No. 6 Trevino, 450 feet northwest line, 150 feet northeast line, Block 15, Survey No. 65; total depth 1,248 feet, testing. Same operator's No.

(Continued on Page 127)

WILDCAT OPERATIONS IN SOUTHWEST TEXAS

ATASCOSA COUNTY

Company, farm and location—	Remarks—
Frontier Oil Co.'s No. 2 Boynton, 775 ft. SW of Brown-Fuller gas well	T. D. 1,252 ft.; drlg.
Nute, Walder & Derden's No. 1 J. B. Young, 750 ft. W line, 370 ft. E line of 107-ac. tract in the Wm. Moore Sur.	Location.

BLANCO COUNTY

Anderson & Manning's No. 1 Speer, 600 ft. to S line, 800 ft. to W line, John W. Speer Sur.	Moving in rig.
Ben H. Ashe Pet. Corp.'s No. 1 Glasscock, moving in to drill on leases out of the Rodson block north of Blanco City	Location.
Hardy Sitton's No. 1 McMillan	T. D. 130 ft.; drlg.
Liles-Adams et al's No. 1 Stanford, 150 ft. to S line, 1,420 ft. to E line of James Stanford's No. 155	T. D. 453 ft.; set csg.
McCreary et al's No. 1 Schenling, 900 ft. to SE line, 600 ft. to SE line of J. A. Rouse No. 118 Sur., 4 miles SW from Blanco City	T. D. 600 ft.; set csg.
J. R. Meek's No. 1 Walker, 360 rds. from W line, 482 rds. from S line of 375-ac. tract in Survey No. 23	T. D. 520 ft.; set csg.
C. Rosenfield's No. 1 Hohenberger, 800 ft. to W line, 1,250 ft. to N line, Sur. No. 94	Spudded.

BASTROP COUNTY

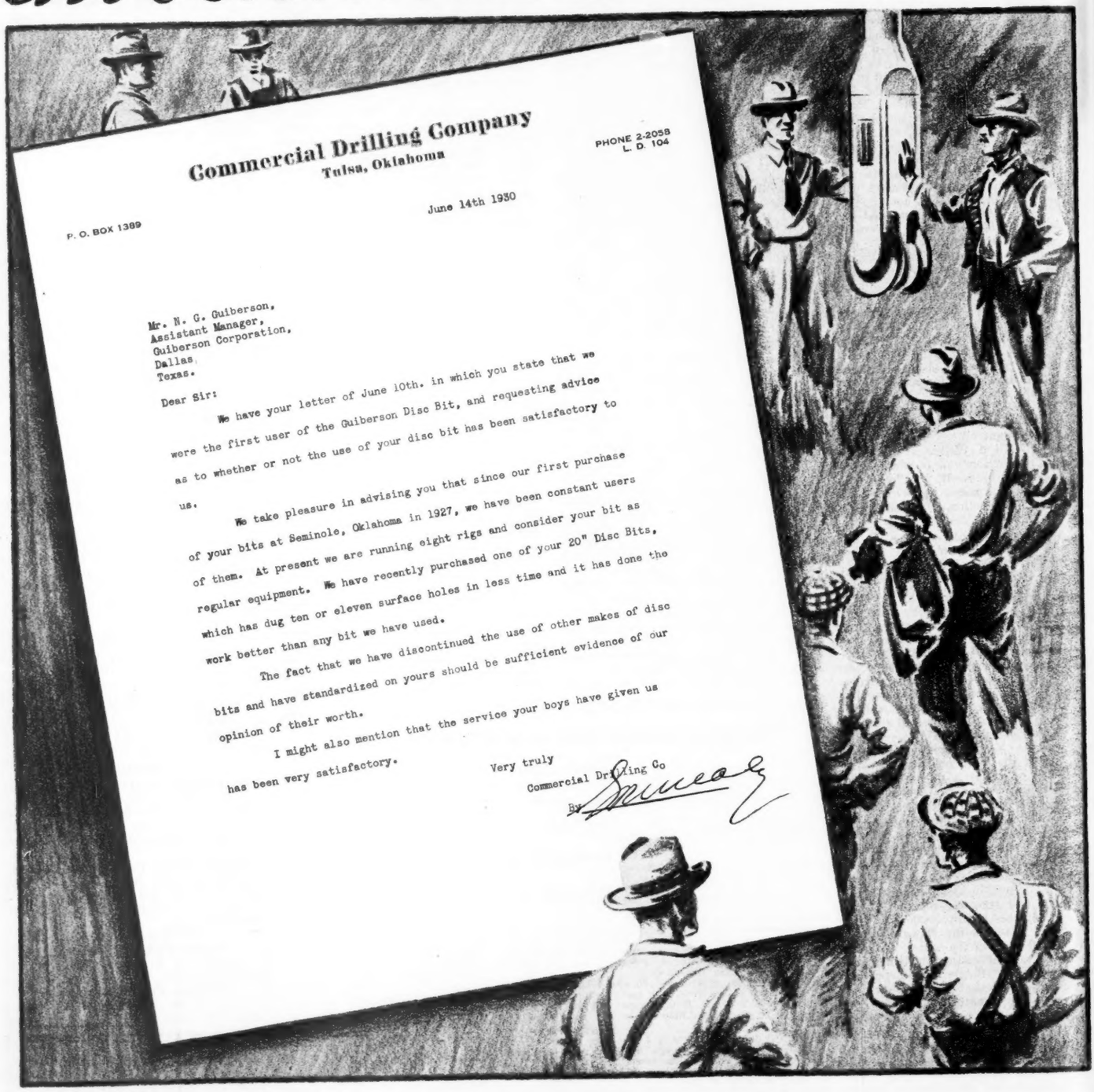
Pacific Oil & Gas Co.'s No. 1 J. Spooner, 300 ft. from N line, 400 ft. from W line in the L. Lavenuz Sur., 4½ miles E from Cedar Creek	T. D. 2,368 ft.; shut down.
Pacific Oil & Gas Co.'s No. 1 J. M. Litton, 150 ft. N and W lines of tract	Derrick.
Majestic Pet. Co.'s No. 1 J. M. Breeding, 160 ft. from N line, 1,020 ft. from W line of 200-ac. tract, 940 varas from W line, 1,225 varas from S line of M. Andrews Sur., 13 miles W from Smithville	T. D. 76 ft. (corrected); shut down.
Champion and others' No. 1 Smith, 2,541 ft. to NW line, 663 ft. to SW line of tract, E. Standifer Sur.	Rigging up.
Texas Pet. Products Co.'s No. 1 Trigg, Stewart Sur.	Location.

BROOKS COUNTY

Houston Oil Co. of Texas' No. 1 Wormser-Holbien, 1,550 ft. S, 2,650 ft. E of intersection of Lisandro Saenz & Manuel Saenz tracts, El Palo & Blanco de Maguellas grant, SW of Lasater discovery gas	Reported as wildcat in error.

(Continued on Page 123)

The FIRST USER *discontinued all others*



Commercial Drilling Company
Tulsa, Oklahoma

PHONE 2-2058
L. D. 104

P. O. BOX 1389

June 14th 1930

Mr. N. G. Guiberson,
Assistant Manager,
Guiberson Corporation,
Dallas,
Texas.

Dear Sir:

We have your letter of June 10th. in which you state that we were the first user of the Guiberson Disc Bit, and requesting advice as to whether or not the use of your disc bit has been satisfactory to us.

We take pleasure in advising you that since our first purchase of your bits at Seminole, Oklahoma in 1927, we have been constant users of them. At present we are running eight rigs and consider your bit as regular equipment. We have recently purchased one of your 20" Disc Bits, which has dug ten or eleven surface holes in less time and it has done the work better than any bit we have used.

The fact that we have discontinued the use of other makes of disc bits and have standardized on yours should be sufficient evidence of our opinion of their worth.

I might also mention that the service your boys have given us has been very satisfactory.

Very truly
Commercial Drilling Co
By

GUIBERSON

BETTER BE SAFE THAN SORRY — GUIBERSON — BETTER BE SAFE THAN SORRY

Deep Sand Area at Refugio Extended

Carried Into Heart of Section in Which 5,400-5,500-Foot Sand Is Obtained. Gulf Coast Curtailment Program Begun

By Neil Williams
Staff Correspondent, Gulf Coast Fields

HOUSTON, Tex., Sept. 1.—The new 6,400-6,500-foot producing horizon of the Refugio Field was extended approximately 3,500 feet to the southeast late in the week with the completion of Morgan Oil Corp.'s No. 2 O'Connor on the southeast side of the Refugio district. The well, the fifth in this sand, came in flowing an estimated 800 bbls. daily from a total depth of 6,454 feet and is rated the best well so far completed at this level.

This well, which is about 8,000 feet south, slightly west, of the 6,400-foot discovery well, Union Producing Co.'s No. 1-A Rose Lambert (now abandoned), carries production from this deep horizon into the heart of the area from which the bulk of production in the 5,400-5,500-foot sand is obtained. The location is 150 feet from the north line and 508 feet from the west line of the 62-acre tract at the southeast corner of the Refugio tract. On the same tract, Morgan Oil Corp. has three other producing wells, all from the 5,400-foot horizon. The present production limits of the 6,400-foot sand now extend over a mile from north to south, the northernmost wells being Union Producing Co.'s No. 1 O'Brien and Independent Oil & Gas Co.'s No. 1 Shelly.

While this well marked a successful completion and extension, three other attempts to extend this 6,400-foot production in other directions during the week so far have failed. Independent Oil & Gas Co.'s No. 6 Jerry Reilly, Lot 2, Block 4, approximately 4,500 feet to the west of the nearest 6,400-foot production and in the middle of the old 3,700-foot producing area, failed to get a test in the sand at 6,472-84 feet, and is drilling deeper in shale at 6,547 feet.

Saxet Deep Test

Another deep test, Saxet Oil Co.'s No. 12 Clint Heard, on the extreme south side of the old Refugio Field, 2 miles from the nearest deep production on the east side of the townsite, tested salt water in the sand at 6,390 feet with 12 feet of screen. It probably will be deepened. On the east edge of the line of 5,400-foot wells, Saxet Oil Co.'s No. 2 Ryals tested dry at 6,444-56 feet and probably will be abandoned. The latter, one of the 5,400-foot wells deepened, is approximately 2,500 feet to the northeast of the Morgan Oil Corp.'s No. 2 O'Connor.

Indications that a second well may be completed in the 5,900-foot horizon in an area 2 miles northeast of the main Refugio Field were given late in the week by a drill stem test in Houston Oil Co.'s No. 2 Rose Lambert. This well at a total depth of 5,890 feet showed 12 fourbles of oil. It is a west offset to Union Producing Co.'s No. 3 M. F. Lambert, which was abandoned as dry after going to below 6,100 feet. Houston Oil Co.'s No. 1 Rose Lambert, 1,000 feet north of No. 2 and a west offset to Union's No. 1 M. F. Lambert, the discovery and so far only well in the 5,900-foot horizon, is fishing swab lost while making a test of the sand at 5,917-22 feet. Several attempts to make a producer in this well have failed. Considering the failures in other tests in that area it has appeared that the discovery well would be the only producer.

Proration Program

With Gulf Coast operators now allowed 30 days in which to bring their production down to the allotted 150,500 bbls. without proration, additional curtailment of drilling is to be expected during the coming month. The 30 days of grace was given coastal fields on the assurance of operators that every effort would be made to restrict drilling to obligated tests. Considering past development of most coastal fields, increase and maintenance of production of which generally has been contingent on new completions, restriction of drilling is equivalent to proration in that it lessens the number of completions and consequently the addition of new production.

Pettus, Refugio, Barbers Hill and Humble are looked upon as holding the keys to the Gulf Coast situation. Pettus, however, an exception to the Coastal proration postponement, has been placed on proration for 60 days, being allotted 7,950 bbls. for its three pools. In the other three fields drilling has continued active but it is believed that within the next month a substantial reduction will be made in the number of rigs operating. Refugio is expected to take care of itself in that the completion of the present series of deep tests probably will mark the end of any future important development. At Barbers Hill, operators will complete present operations but after that, according to their assurances, they will confine their drilling to necessary offsets and lease obligations. Humble at present remains a doubtful place with an increasing number of new operations being started in the development of the flank sand areas on the west and northwest sides of the dome.

Humble West Side Well

With the exception of one well, Rio Bravo Oil Co.'s No. 1 H. E. and W. T., completed early in the week, there was no new production at Humble. That well, however, which flowed initially at the rate of 1,200 bbls. on a three-eighths-inch choke, is rated as one of the best wells so far brought in on the west side. Late in the week it had increased its flow and was estimated good for 3,000 bbls. daily. It is in sandy shale at 4,306 feet with 86 feet of screen set. Three other tests on that side of the dome late in the week were in the pay and preparing to test.

At Blue Ridge, Gulf Production Co. filled a gap in production on the extreme east side of the dome with the completion of its No. 18 Luscher flowing 500 bbls. daily from sandy shale at a total depth of 4,174 feet. The well is on the outer edge of production.

Only three small wells were completed at Barbers Hill although there are a series of deep wells near the pay horizon which should bring some interesting developments during the coming week. Sun Oil Co.'s No. 1 Winfree, which during the preceding week extended deep production to the extreme west flank of the dome, continues to hold up around 1,100 bbls. daily of pipe line oil. Its consistency of flow makes the development of good production on the west flank look very good.

Wells Completed

Other good wells completed the past week included Humble Oil & Refining Co.'s No. 6 Camp at DeWalt, Fort Bend County, which made an initial flow at the rate of 1,200 bbls. daily from a total depth of 3,615 feet. At Raccoon Bend, Humble Oil & Refining Co. added another good well in No. 10 Thompson, which flowed 625 bbls. daily at 3,384 feet.

At Vinton, Calcasieu Parish, Emerson-Moore's No. 2 Gray, in the new pool being developed on the north end of the field, was completed flowing 600 bbls. daily at 3,026 feet. Marrs McLean's No. 11 Gray, a shallow well in the Vinton Field, pumped only 15 bbls. daily at 1,917 feet.

Additional Gulf Coast wells included: Rio Bravo Oil Co.'s No. 83-A Cotton, Saratoga, pumping 32 bbls. daily, 551 feet; Yount Lee Oil Co.'s Nos. 76 and 87 McFaddin, Spindletop, the former flowing 1,050 bbls. at 3,740 feet and the latter 1,050 bbls. at 3,007 feet; C. M. Crotty's No. 15 Lillard, Edgerly, flowing 15 bbls. net oil, 2,349 feet; Republic Production Co.'s No. 138 Dolbear, Hull, pumping 100 bbls., 2,058 feet; Humble Oil & Refining Co.'s No. 6 Winfrey, Orange, pumping 14 bbls. net oil, 4,019 feet; Associated Oil Co.'s No. 5 Paraffine, Edgerly, pumping 50 bbls., 3,075 feet, and Kathleen Oil Co.'s No. 2 Syndicate Clemens, Jennings, pumping 15 bbls. net oil, 1,539 feet.

Shell Petroleum Corp. late in the week was trying to make a test in its No. 4 Blakely on its Danbury Dome in central Brazoria County. The well, with 18 feet of screen set at 1,852 feet, was swabbing some oil and water with fluid standing within 500 feet of the top. In the same county, northwestern part, The Texas Company has rigged up for an interesting wildcat, No. 1 Murdock, Charles Heywood Survey.

Daily Average Production

Daily average production indicated no important change for the week ended August 30 with a decrease of only 1,791 bbls. being recorded. Figures by fields were:

SOUTHEAST TEXAS

Allen	37
Barbers Hill	19,329
Batson	1,101
Big Creek	3,942
Blue Ridge	1,550
Brenham	145
Boling	993
Clay Creek	1,437
Damon Mound	700
DeWalt	12,119
Fannett	896
Goose Creek	4,507
Hankamar	2,072
High Island	886
Hull	8,503
Humble	22,437
Jasper County	25
Lost Lake	636
Markham	285
Nash	284
North Dayton	925
Orange	2,157
Orchard	2,553
Pierce Junction	12,369
Port Neches	1,707
Raccoon Bend	11,862
Refugio	27,945
Esperson (Sheeks)	2,805
Saratoga	1,201
Sour Lake	2,321
South Liberty	3,630
Spindletop	17,806
West Columbia	4,114
Total week ending August 30	173,379
Total week ending August 23	174,322
Decrease	943

South Louisiana

Anse La Butte	32
Bayou Blue	355
Bayou Bouillon	130
Black Bayou	475
Edgerly	498
Jennings	2,069
Hackberry	3,363
Lake Barre	1,173
Lake Pelto	102
Lockport	2,813
Port Barre	3,310
Sorrento	75
Starks	732
Sulphur	2,975
Sweet Lake	1,127
Vinton	5,764
Welsh	121
White Castle	1,177
Total week ending August 30	26,291
Total week ending August 23	27,139
Decrease	848
Gulf Coast:	
Total week ending August 30	199,670
Total week ending August 23	201,461
Decrease	1,791

GULF COAST FIELDS AND WILDCATS

Week Ended August 30

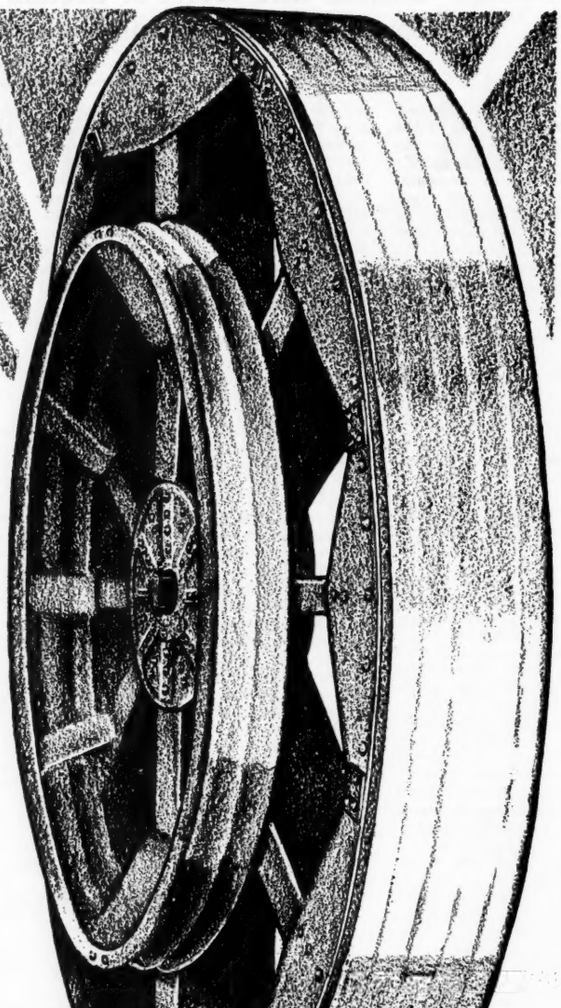
BARBERS HILL—CHAMBERS COUNTY

Mills Bennett Production Co.'s No. 3 E. W. Barber, north	Drlg. shale and lime 4,346 ft.
Mills Bennett Prod. Co.'s No. 1 Henry Fisher, southwest.	Drlg. hard sand rock 6,129 ft.
Mills Bennett Prod. Co.'s No. 4 Gulf-Higgins, southwest..	Sandy shale showing oil 5,244 ft.; cem. 6⅝-in. casing 5,170 ft.
Mills Bennett Prod. Co.'s No. 2 Means (workover)	Drlg. sandy shale 5,154 ft.
Humble Oil & Ref. Co.'s No. 6 Fee, west	Drlg. shale 6,588 ft.
Humble Oil & Ref. Co.'s No. 7 Meyers fee, west	Abandoned.
Humphreys Corp.'s No. 1 Fitzgerald, north	Drlg. salt 2,188 ft.
Humphreys Corp.'s No. 1-B Barber, north	Drlg. salt 2,585 ft.
Humphreys Corp.'s No. 9-A Kirby, northwest	Coring shale and lime 5,436 ft.
Humphreys Corp.'s No. 6-A Barber, northwest	Drlg. salt 4,146 ft.
Humphreys Corp.'s No. 8-B Kirby, northwest	Drlg. salt 2,255 ft.
Humphreys Corp.'s No. 2-H Kirby (workover)	Trying to set 5 3/16-in. casing 6,617 ft.
McAlbert Oil Co.'s No. 1 Higgins (workover)	Drlg. sandy shale 6,079 ft.
McAlbert Oil Co.'s N. 7 Woodward	Comp. flowing 75 bbls. 5,249 ft.
Republic Production Co.'s No. 3 Kirby (workover)	Drlg. shale and lime 5,500 ft.
Rio Bravo Oil Co.'s No. 1 Fisher, southwest	Drlg. hard lime 5,421 ft.
Sinclair Oil & Gas Co.'s No. 1 Winfree fee, west	Location.
Sinclair Oil & Gas Co.'s No. 1 Smith, west	Rig.
Sinclair Oil & Gas Co.'s No. 3 McKinney fee	Total depth 6,597 ft.; set 179 ft. screen 5,244 ft.; comp. flowing 250 bbls.
Sinclair Oil & Gas Co.'s No. 4 McKinney, southeast	Rig.
Sun Oil Co.'s No. 9 Wilburn fee, southeast	Drlg. shale and lime 2,838 ft.
Sun Oil Co.'s No. 10 Wilburn fee, southeast	Drlg. shale and lime 1,396 ft.
Sun Oil Co.'s No. 9 J. Wilburn, southeast	Comp. flowing 409 bbls. fluid, 20 per cent water, 5,211 ft.
Sun Oil Co.'s No. 10 J. Wilburn, southeast	Rig.
Sun Oil Co.'s No. 11 Wilburn fee, southeast	Rig.
Sun Oil Co.'s No. 1 Zadie Fisher, southwest	Drlg. shale 3,697 ft.
The Texas Company's No. 4 Wilburn, southeast	Total depth 5,149 ft.; to pump.
The Texas Company's No. 1 Williams, southwest	Drlg. shale and lime 3,848 ft.
The Texas Company's No. 1 Winfree, west	Rig.
Yount Lee Oil Co.'s No. 1 Fisher (workover)	Drlg. hard sand 5,977 ft.
Yount Lee Oil Co.'s No. 1 Kindman, southwest	Coring sand 4,522 ft.
Yount Lee Oil Co.'s No. 15 Chambers, south	Drlg. hard lime 4,199 ft.
Yount Lee Oil Co.'s No. 3 Fisher, southeast	Drlg. shale and lime 5,412 ft.
Yount Lee Oil Co.'s No. 5 Phillips, southwest	Drlg. sand and gravel 2,040 ft.
Yount Lee Oil Co.'s No. 9 Woodward, southeast	Drlg. sand and gravel 421 ft.

RACCOON BEND—AUSTIN COUNTY

Humble & Valley's No. 9 Thompson	Drlg. shale and shell 3,082 ft.
Humble & Valley's No. 10 Thompson	Comp. flowing 625 bbls. oil 3,384 ft.
Humble & Valley's No. 1 Fritz Lamp	Drlg. shale and lime 2,189 ft.
Humble & Valley's No. 3 Buchanan	Derrick.
Humble & Valley's No. 3 Diemar	Rig.
Humble & Valley's No. 3-B Hardy	Location.
Humble & Valley's No. 9 Mueller	Location.
Humble & Valley's No. 7 Payne	Derrick.
Humble & Valley's No. 8 Payne	Derrick.
Humble & Valley's No. 10 Payne	Drlg. shale and lime 835 ft.
Humble & Valley's No. 4 Wilson	Location.
Humble & Valley's No. 6 Woodley	Derrick.
Humble & Valley's No. 7 Woodley	Derrick.

(Continued on Page 124)



Moore

BAND WHEEL

AS GOOD AS THE CHAMPION DERRICK

The full rigid strength which the proper use of steel will give is built into this wheel at the plant, and it is shipped in one piece ready to be mounted on the shaft. It has steel plate rims and rolled steel channel spokes with heavy reinforcement at the flange. The latter is of one piece in heavy duty wheels. There are no bolts in the flange, machine driven rivets through spokes and angle reinforcements carrying the heavy loads at this point. One-inch wood cants are used.

Moore Tug Rim

The tug rim, which is part of the above wheel, also gives long, economical service when used on wooden band wheels. The Moore rim is of one piece, rolled steel with double V groove tug. Heavy plate brackets are electrically welded to the rim. Standard diameter is 7′.

Moore

ALL STEEL RIG EQUIPMENT

LEE C. MOORE AND COMPANY, INC.

PITTSBURGH Established 1907 TULSA

New York Offices: Oilfield Equipment Company, 30 Church Street, New York, N. Y.

DALLAS, TEXAS WICHITA, KANSAS CASPER, WYO.

SHREVEPORT, LA. HOUSTON, TEXAS

Stocks in All Principal Fields

Hobbs Potential Above 300,000 Barrels

Pool Has 73 Wells Drilling. Midway Dome, Wyoming, Well Puts Oil Over Derrick. Big Gas Flow in the Dakota at Sand Draw Dome

By Tolbert R. Ingram
Staff Correspondent, Rocky Mountain Area

DENVER, Colo., Sept. 1.—The allowable output of the Hobbs Pool in Lea County, New Mexico, was cut from 35,000 to 32,500 bbls. per day by the proration committee on August 16. The potential production of the field on August 16, from 42 wells was 287,246 bbls., but now is in excess of 300,000 bbls. with 73 wells drilling. Six new locations were announced this week and five wells were completed. The Gypsy Oil Co.'s No. 3 Grimes flowed 604 bbls. in 30 minutes and may establish a new high record. The Tidal Oil Co.'s No. 1 Colman, in the Eunice area, will be a small well.

Colorado is showing renewed interest in the possibilities in the Pennsylvanian formation in the western and northwestern parts of the State and S. H. Keoughan's test to that horizon in Moffat County is attracting considerable attention. The Mountain Fuel Supply Co. completed a 5,000,000-foot gasser on the Bartram Dome.

The Midway Dome test in Wyoming is showing up better after being drilled deeper and made a flow by heads, putting the oil 20 feet over the top of the derrick. The Salt Creek deep test exhausted all possibilities in that well when it hit the granite at 5,420 feet. The Producers & Refiners Corp.'s deep test on the Big Sand Draw Dome opened a big flow of gas in the Dakota, the first time that formation has been drilled. The Osage Field in Weston County had another good well, flowing 200 bbls. in 14 hours. The Mountain Fuel Supply Co. completed a 5,000,000-foot gasser in the Baxter Basin Field.

NEW MEXICO

Hobbs Pool—Lea County

A cut of 2,500 bbls. a day in the allowable production from the Hobbs Pool in Lea County, New Mexico, was put into effect on August 16 by the executive committee in charge of proration under the agreement between the operators and the State of New Mexico. The daily allowance from the beginning of proration up to August 16 was 35,000 bbls. and this was reduced for the period August 16 to August 31, inclusive, to 32,500 bbls. The potential production on August 16, as announced by Umpire C. G. Staley for the committee, was 287,246 bbls. daily from 42 wells on 35 units. A division of the potential production by the maximum outlet of 32,500 bbls. a day (25 per cent on acreage and 75 per cent on potential) gives an allowance on acreage of 226 bbls. per unit and a potential allowance of .82925 of the average unit potential.

Pipe line runs from Hobbs during July amounted to 1,024,651 bbls., a daily average of 33,053 bbls. Of the total, the Humble Pipe Line Co. handled 423,131 bbls.; Shell Pipe Line Co., 198,322 bbls., and the Atlantic Pipe Line Co., 403,198 bbls. Crude in storage in the field on August 1 was 185,960 bbls. The combined capacity of the 15 storage tanks in the field is 398,000 bbls. Proration went into effect on July 12 and the total runs from that time to August 15 was 1,218,399 bbls. The pipe line runs for the first half of August amounted to 480,606 bbls., a net shortage of 44,964 bbls. from the allowable production.

Potential May Be 1,000,000 Bbls.

There are 73 wells drilling in the field including new locations announced this week. It is the maximum number of operations at any one time. It is being predicted by some reliable authorities that the potential production of the field will reach 1,000,000 bbls. a day within 40 days. When it is recalled that the potential was 167,765 bbls. daily from 28 wells on August 1, and 287,246 bbls. from 42 wells on August 16, the estimate looks reasonable. The increase in the 15 days was 119,481 bbls., or an average of 8,536 bbls. per well for the 14 additional wells. The 73 active operations reported is exclusive of the wells completed since August 15 which have boosted the potential up to more than 300,000 bbls. per day. Drilling costs and time required for drilling a well are being reduced as the operators become more familiar with the field. One well was drilled to 4,175 feet in 22 working days and the cost in that particular section has been reduced to $60,000.

Six new locations were announced this week, most all of which are in what is considered proven territory. One of these, the Midwest Refining Co.'s No. 29 Turner, C SW SW, Section 34-18-38, takes the play a little to the east. It was spotted in the Hobbs Townsite and is three-fourths of a mile northeast of its No. 33 Byers, which was given a potential of better than 21,000 bbls. a day. Other locations are: Sun Oil Co.'s No. 3 McKinley, NW cor. NE, Section 5-19-38, digging cellar; Ohio Oil Co.'s No. 3 State, NW cor. SW, Section 30-18-38, digging cellar; Humble Oil & Refining Co.'s No. 1-A State, NE cor. SE, Section 25-18-37; Ohio Oil Co.'s No. 5 State-Northrup, SW cor. SE, Section 32-18-38; and Shell Petroleum Corp.'s No. 2-B McKinley, SE cor. SW, Section 20-18-38. All are 330-foot locations except the Midwest well which is in the center of the forty.

Five Completions

Five completions were reported this week and one near completion gives indications of establishing a new record. The last mentioned is Gypsy Oil Co.'s No. 3 Grimes, NE cor. SW, Section 32-18-38, which flowed 604 bbls. in 30 minutes from the pay at 3,975-4,154 feet. This was at the rate of 28,000 bbls. a day, but whether it will establish a high record for the field on an official gauging remains to be determined as it is not yet a completion. The Gypsy's No. 2 Grimes, NE SE NW, Section 32-18-38, gauged 853 bbls. the first hour from the pay at 3,980-4,155 feet. It is an offset on the west to the Shell's No. 2 State, which had a potential of 7,646 bbls., and a diagonal offset on the southwest to the Amerada corporation's No. 1-A State, which was given a potential of 19,308 bbls. he Shell Petroleum Corp.'s No. 2 State, NW SW NE, Section 32-18-38, was completed at 4,185 feet, and was rated at 7,646 bbls. of oil and 20,000,000 feet of gas per day. The pay was at 3,986-4,185 feet. The elevation is 3,638 feet, the top of the anhydrite was at 1,466 feet and the top of the brown lime at 2,755 feet. Ohio Oil Co.'s No. 3 State-Northrup, NE cor. SE, Section 32-18-38, was completed at 4,175 feet. The pay was at 3,990-4175 feet and it was credited with a potential of 18,884 bbls. and 15,000,000 feet of gas. The elevation is 3,640 feet, the top of the anhydrite was at 1,505 feet and the first gas was at 2,765 feet and the first oil at 3,151 feet. Midwest Refining Co.'s No. 8 State, C NW NW, Section 4-19-38, was drilled to 4,175 feet and made 400 bbls. the first hour through tubing. It is an offset on the east to Sun Oil Co.'s No. 1 McKinley, which was rated at 11,000 bbls. the first 24 hours. Midwest's No. 8 State, C NW NW, Section 10-19-38, made 739 bbls. the first 24 hours through 2½-inch tubing at a total depth of 4,200 feet. It is an offset on the east to the discovery well in the southeastern part of the field which came in two years ago.

Routine drilling operations include the following:

Amerada Petroleum Corp.'s No. 2-A State, NE cor., Section 32-18-38, is drilling at 2,737 feet in anhydrite, which was topped at 1,529 feet. The elevation is 3,651 feet. Same company's No. 1-B State, SW SE NW, Section 29-18-38, is drilling at 3,433 feet in anhydrite and lime. It had the first gas at 2,805-08 feet and the first oil at 3,177-86 feet. Amerada's No. 2-B State, SE SW NE, Section 29-18-38, is drilling at 3,340 feet in anhydrite and lime. It had the first gas at 2,805-40 feet and the first oil at 3,194-3,220 feet. Same company's No. 4 McKinley, SW cor. NW, Section 30-18-38, spudded on August 14 and cemented the 12½-inch at 212 feet.

Atlantic Oil Producing Co.'s No. 1 State, NE cor., Section 6-19-38, is drilling at 3,727 feet in lime and anhydrite. It had gas at 3,360-65 feet and 3,345-55 feet, and show of salt water at 3,710-20 feet. Its No. 1 Grimes, SW cor. SE, Section 20-18-38, is still a location.

The California Co.'s No. 2 State, NE SW SE, Section 29-18-38, is drilling at 3,234 feet in lime. It had a show of gas at 2,880 feet and an oil and gas show at 3,160-70 feet. The gas increased at 3,230 feet. The same company's No. 3 State, SE cor., Section 29-18-38, cemented the 13⅜-inch at 238 feet and is drilling in the red beds at 843 feet. Its No. 4 State, SW cor. SE, Section 29-18-38, spudded August 16 and is fishing at 100 feet, and its No. 1 McKinley, 1,320 feet from west line and 2,310 feet from north line, Section 20-18-38, spudded August 19 and is in sand at 30 feet.

The Continental Oil Co.'s No. 1-A State, SE NW SE, Section 29-18-38, is drilling at 3,342 feet in anhydrite and had a show of oil at 3,162 feet, and its No. 2-A State, SE cor. SW, Section 29-18-38, cemented 9⅝-inch at 1,730 feet. Its No. 3-A State, NE NW SE, Section 29-18-38, is fishing at 2,737 feet in anhydrite, and its No. 4-A State, NE NW SE, Section 29-18-38, has not yet spudded. Continental's No. 1-B State, C SW SW, Section 33-18-38, is drilling at 3,802 feet in lime and had gas at 3,686-92 feet. Its No. 2-B State, NW cor. SW, Section 33-18-38, is drilling at 3,380 feet in anhydrite and had a show of gas at 2,795 feet and a show of oil at 3,171 feet. Same company's No. 3-B State, 2,310 feet from south line and 1,320 feet from west line, Section 33-18-38, cemented 15½-inch at 203 feet in new hole after skidding and is drilling at 780 feet in red rock.

Empire Test

Empire Gas & Fuel Co.'s No. 1 Boon-Hardin, SE cor. NW, Section 19-18-38, cemented 9⅝-inch at 2,575 feet. The base of the salt was at 2,560 feet and the elevation is 3,662 feet. Its No. 2 Boon-Hardin, SW cor. NW, Section 19-18-38, is drilling at 2,330 feet in anhydrite. Top of the anhydrite was at 1,480 feet and the top of the salt at 1,635 feet. Its No. 2 Fowler, NW cor. NE, Section 31-18-38, is drilling at 3,623 feet in anhydrite and lime. The brown lime was topped at 2,790 feet and the first gas was at 2,808 feet and the first oil at 3,182 feet.

George F. Getty, Inc.'s No. 5 McKinley, NE cor., Section 30-18-38, is still a location.

Gypsy Oil Co.'s No. 4 Grimes, NE cor. NW, Section 32-18-38, is drilling at 3,456 feet, and its No. 5 Grimes, SW cor., Section 32-18-38, is drilling at 3,961 feet. Its No. 6 Grimes, SE cor. SW, Section 32-18-38, is rigging up, and its No. 1 Graham, SE cor. NE, Section 24-18-38, is drilling at 3,650 feet.

Hobbs High, Inc.'s No. 1 Tatum, NW SW SW, Section 35-18-38, is shut down at 3,805 feet.

Humble Oil & Refining Co.'s No. 3 Bowers, SW cor., Section 29-18-38, is coring at 4,131 feet in lime, and its No. 4 Bowers, SE cor., Section 30-18-38, is drilling at 4,003 feet in lime. Same company's No. 5 Bowers, NW NE SE, Section 30-18-38, cemented the 7-inch at 3,975 feet, and its No. 8 Bowers, SW cor. SE, Section 30-18-38, is drilling at 3,109 feet in anhydrite and lime. Last named topped the brown lime at 2,785 feet and had the first gas at 2,801-18 feet. Humble's No. 9 Bowers, SE SW NW, Section 29-18-38, is drilling at 3,240 feet. It topped the brown lime at 2,790 feet and had the first gas at 2,806 feet and the first oil at 3,185 feet. Same company's No. 10 Bowers, NE NW SW, Section 29-18-38, is bottomed at 225 feet and rigging up rotary, and its No. 1 Grimes, SW NE NE, Section 29-18-38, cemented the 12½-inch at 245 feet and is rigging up rotary.

Landreth Production Co.'s No. 1-B State, SW cor. NW, Section 33-18-38, is drilling at 3,932 feet in lime, and its No. 2-B State, CSL NW, Section 33-18-38, cemented the 9⅝-inch at 2,748 feet. It bottomed the salt at 2,515 feet.

Midwest Operations

Midwest Refining Co.'s No. 6 McKinley, NW cor., Section 5-19-38, spudded August 16 and cemented the 15½-inch at 200 feet. Its No. 26 Terry, C SE SE, Section 9-19-38, is drilling at 1,700 feet in salt. It topped the salt at 1,695 feet. The Midwest's No. 33 State, SE SW NW, Section 4-19-38, is drilling at 4,065 feet in lime, and its No. 4 State, NE NW SE, Section 4-19-38, is drilling at 2,875 feet in lime and anhydrite and had a show of gas at 2,865 feet. Midwest's No. 26 State, C SE NW, Section 4-19-38, is running the 6⅝-inch at 3,992 feet.

Ohio Oil Co.'s No. 2 State, SE cor. SW, Section 30-18-38, is drilling at 3,015 feet, and its No. 4 State-Northrup, NW cor. SE, Section 32-18-38, is drilling at 3,204 feet in anhydrite. It had its first gas at 2,796 feet and first oil at 3,145-54 feet.

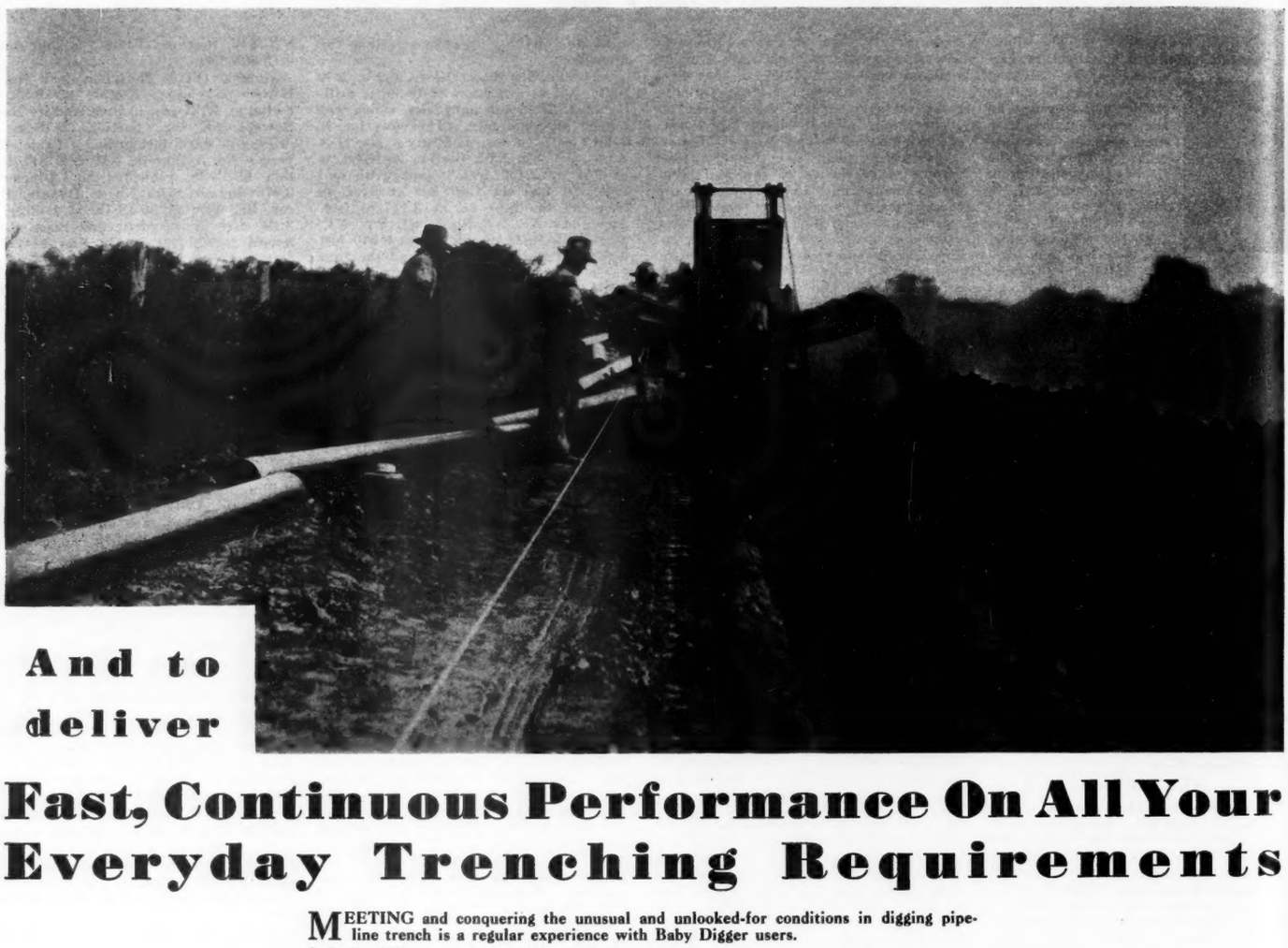
Prairie Oil & Gas Co.'s No. 2 Grimes, SW NW NW, Section 28-18-38, is a cellar, and its No. 2 Selman, SW cor. NE, Section 15-19-38, is still a location. Its No. 1 Grimes, SW cor. NW, Section 28-18-38, is drilling at 2,486 feet in salt. It topped the anhydrite at 1,575 feet and its elevation is 3,648 feet.

Shell Corporation Busy

Shell Petroleum Corp.'s No. 1 Berry, SE cor., Section 31-18-38, is drilling at 3,440 feet in anhydrite and lime. It topped the brown lime at 2,800 feet, had the first gas at 2,812 feet and the first oil at 3,215-20 feet. The elevation is 3,634 feet. Same company's No. 3-A State, SE cor. NE, Section 32-18-38, is drilling at 3,869 feet in lime, and its No. 4 State, SW cor. NE, Section 32-18-38, is drilling at 3,810 feet in lime. Its No. 1-B McKinley, CNL SW, Section 20-18-38, spudded August 16 and cemented the 12½-inch at 242 feet, and its No. 1-B State, NW cor., Section 33-18-38, is drilling at 2,255 feet in salt. Last named topped the anhydrite at 1,585 feet and the salt at 1,710 feet. Shell's No. 1 Grimes, SW cor., Section 28-18-38, is drilling at 2,375 feet in salt. It topped the anhydrite at 1,560 feet and the elevation is 3,647 feet. Same company's No. 2 Grimes, NW cor. SW, Section 28-18-38, is drilling at 1,675 feet in anhydrite, which was topped at 1,560 feet. The elevation is 3,650 feet. Shell's No. 2 McKinley, SW cor. SE, Section 19-18-38, is bottomed at 3,917 feet in lime and is running the 7-inch. It had the first oil

(Continued on Page 111)

FOR UNUSUAL CONDITIONS



And to deliver

Fast, Continuous Performance On All Your Everyday Trenching Requirements

MEETING and conquering the unusual and unlooked-for conditions in digging pipe-line trench is a regular experience with Baby Digger users.

In-built ability to meet requirements is the answer.

Set the Cleveland Baby Digger down on your job, and watch it go. See how its wheel-type digging mechanism and wide range of speeds, maintain *consistently* high daily footage records.

Notice how its full crawler-tracks, low center of gravity and compact design carry it over the roughest right-of-way. See how the absence of excess tonnage enables it to traverse soft ground and simplifies the crossing of ditches, small streams or flimsy bridges.

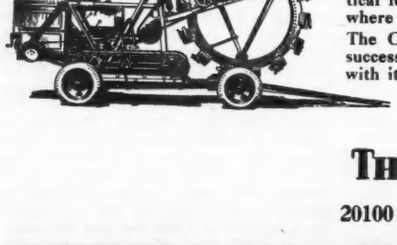
Watch how quickly it loads on its own special trailer, for truck-speed transportation, any distance to another location. From every angle, it's a story of time saved, through its ready adaptability to working conditions.

Consider the construction back of this machine. Fully equipped with Timken roller and ball-bearings; the finest, toughest alloy steels in every vital part; all reduction units enclosed and running in oil, and so on, down to the last nut and bolt, you'll find practical ideas carried out in the most modern way. Not one concession is made to price, where quality will improve its performance.

The Cleveland Baby Digger has come through some mighty tough tests, with signal success. Test it yourself on your next job—you'll be satisfied, convinced, enthusiastic with its performance.

Complete details promptly supplied by mail or qualified representative —without obligation, of course.

Shows Baby Digger mounted on its own specially built trailer for quick, easy, time-saving transportation.



Send for this new Catalog No. 10, giving full details and specifications.

THE CLEVELAND TRENCHER COMPANY
"Pioneers of the Small Trencher"
20100 St. Clair Avenue Cleveland, Ohio

The CLEVELAND BABY DIGGER

Further Curtailment in California Field

Lessened Consumption Calls for Revision of Economic Survey Conclusions. Special Meetings Considering Situation

By L. P. Stockman
Staff Correspondent, California Fields

LOS ANGELES, Calif., Aug. 30.—In the light of what has been accomplished by mutual artificial curtailment of production, it would be logicial to assume that California is well on the way toward partial recovery from the chaotic conditions which have existed for the past several years, especially in view of the fact that crude oil production has been drastically reduced and brought down to within striking distance of 600,000 bbls. per day within the past several months. This deduction might be correct if it was not for one important variable factor, the action of which is regulated by the inevitable law of supply and demand. The factor referred to is the commercial consumption of refined petroleum products, which, in the final analysis, establishes the economic limit of production and governs the price which can be paid for crude oil or other raw material.

The general economic depression is being reflected in the oil industry on the Pacific Coast in a smaller demand for petroleum products with the result that consumption figures are considerably lower than they should normally be. This abnormal condition has partially voided the economic survey made several months ago by petroleum economists and a substantial revision must be made if a balanced condition of affairs is desired. The smaller consumption of petroleum products occasioned by the general economic depression makes it obligatory for operators to effect a further curtailment in crude oil production if marketing companies are to be permitted to liquidate the present excessive stocks of crude and refined oils as a final step toward ultimate stabilization.

Special Meeting Called

In order to strengthen California's crude oil curtailment program and consequently stabilize conditions on the Pacific Coast, especially during the coming winter months when consumption will be lowest, Paul N. Boggs, chairman of the committee on statewide curtailment, has called a series of special meetings to be held in Los Angeles during the first week in September. Three meetings will be held during this period, one by the economic committee, another by the fact finding committee and a final meeting on September 4 by the general operating committee. The last meeting, tentatively set for September 4, is the most important as the executive heads of both large and small producers comprising the committee will determine the future policy to be pursued. The importance which attaches to this meeting lies in the fact that there is no unanimity of opinion as to the best policy to pursue. It is generally agreed among those in close touch with the situation that stocks of crude and refined oils should be reduced to an absolute minimum as this should tend to stabilize conditions. This position is undeniably correct from a general standpoint but at the same time it is not especially advantageous to companies having a large amount of oil in storage but having insufficient production to supply current demands. This group is of the opinion that it would be more advantageous from their personal standpoint to liquidate present surplus stocks over a long period of time. It is quite probable, however, that this divergence of opinion will be harmonized as unanimous action is necessary to effect stabilization.

Chairman Boggs' Statement

In calling the three committee meetings to convene during the coming week, Chairman Boggs stated that, "it develops that since the economic survey was completed several months ago there has been a substantial decline in sales and it now becomes necessary to ask the special committee of 11 to review their original report and revamp the same to take care of this decline in sales. The effect of these new figures will unquestionably necessitate a very substantial additional reduction from the present daily allowable of 596,000 bbls. While we know that the additional curtailment which will be necessary will be very substantial we do not anticipate any serious difficulty in adjusting the production to meet the emergency as the operators, statewide, are in full accord and thoroughly appreciate its advantages to themselves as well as their obligation to the State and Government to conserve our natural resources. California operators have led the world in curtailment and while the next reduction will be the most severe they have yet to execute, we fortunately have the type of operators who are capable of carrying through and we are also exceptionally fortunate in having an understanding and liberal press which has rendered great service in our curtailment efforts. So we have every reason to believe that our efforts on September 4 will be successful and that we will again write history as far as curtailment is concerned."

Umpire H. P. Grimm has sent the following letter to all operators:

"Due to the fact that the General Committee wishes to carefully consider the present status of the curtailment program and the certain changes in supply and demand during the fall and winter months, it has become necessary to delay the issuance of our customary proration schedules until after the meeting of the committee on September 4. The chairman has called the attention of the General Committee and the umpires to the fact that the actual production of the State has consistently exceeded the state quota of 596,000 bbls. daily and is rapidly increasing. This increase is coming at a time when there has been a distinct lessening in demand for California oil products and it is obvious that some further adjustment of production to demand will be necessary. Any action taken by the General Committee will be reflected in our schedules to be issued immediately after their meeting. In the meantime you are advised to adhere strictly to your present daily allowable production."

Sensitive Situation

The production situation in California, although fairly well stabilized at the present time, is nevertheless being watched with extreme care because any relaxation in curtailment work may seriously jeopardize the artificial degree of stability which has only been achieved by aggressive curtailment and the limitation of drilling operations. This close observation is necessary because the sensitive condition of State production reflects increased production of any field to a marked degree. State production, while it has not yet reached the settled stage, has been curtailed to such an extent that the production of most fields remains relatively stable. In view of this condition it is quite obvious that the completion of new wells causes a temporary up swing in as much as the normal decline in production, minimized by curtailment, is many times insufficient to offset the amount of new production added by wells completed. The upswing during the first part of August is attributed to increased production at Elwood. The following week, production was up a little higher because of an increase at Playa Del Rey. The next week State production dropped back again because of a substantial decline registered at Playa Del Rey when a number of wells stopped flowing and the pinching in of production at Elwood.

The strenuous attempts to limit State production by concerted statewide curtailment and the proposal to effect an additional substantial reduction is particularly interesting because it is absolutely necessary to keep crude oil production down to a minimum if the present degree of stabilization is to be maintained. Marketing conditions on the Pacific Coast are not any too steady and it would not require much price cutting to precipitate another general gasoline war notwithstanding that all major companies and progressive independent marketers are doing everything in their power to avert a repetition of the recent disastrous competitive bid for gallonage. The Standard and Union have already stopped selling gasoline to a number of independent service station operators who have been consistent offenders by their persistent price cutting. The Macmillan Petroleum Co. has also pursued a similar policy.

President Macmillan's Views

Herbert R. Macmillan, president of the California Oil & Gas Association, in denying the possibility of another gasoline war, stated this week that, "it is true that some price cutting prevails on the Pacific Coast but that another price war can follow so close on the heels of the last one seems unthinkable and every effort must be made to prevent it. It can hardly be expected that a situation such as obtained when the last price war terminated could be eradicated immediately. Many service stations are still selling gasoline which they stored in large quantities at cheap prices during the last war but this gasoline will soon be consumed and will put an end to some of the price cutting. Many of the independent refiners were bled white during the last price war and some are compelled to exchange gasoline for dollars as rapidly as possible. I think it can be stated without fear of contradiction that not a single gasoline producing company is making much profit at the present price of 19½ cents per gallon at the service station in Los Angeles."

Continuing, Mr. Macmillan stated that, "it will be remembered that the curtailment agreement entered into by the oil producers of the State of California was done for the purpose of carrying out conservation measures suggested by President Hoover and also to prevent the waste of oil and gas in this State. When that agreement was entered into, thereby reducing the operations of oil producers, as a reward and compensation the price of crude oil was advanced. This advance in the price of oil prevents the refiner from making any profit at the present time. Needless to say, the consumer of gasoline is delighted to be able to purchase this product at a cheap figure but the public cannot expect any industry to continue to produce an article of commerce at a loss and the manufacturers of gasoline cannot be expected to continue on the present basis. If it is so continued some will be forced to dispose of their product at the reduced prices in order to realize the necessary cash with which to continue their business. There are several ways of correcting this situation. It may be done by reducing the price of crude oil, but if this is done we cannot hope to hold the present curtailment campaign in line. It may also be done by reducing the wages of employes but if this policy is pursued it will result in reducing the purchasing power of the public. The inability of refiners to show satisfactory profits may also be corrected by increasing the retail price of gasoline, and this last method seems to be the only logical method. In as much as the producer of crude oil has benefited by the increased price of crude oil and gasoline purchasers benefited throughout the recent gasoline price war, it is now time that the refiner be placed in a position where some profit can be made out of the finished product."

Playa Del Rey

The Mohawk Oil Co. focused the attention of operators on Playa Del Rey this week when its well No. 1, located near Forty-eighth and Speedway Streets, blew in during the course of a water test flowing 14,000,000 feet of natural gas and 300 bbls. of 52 gravity oil per day from 5,635 feet. The unusually light oil produced by this well is undoubtedly due to the probability that it contains a substantial quantity of condensate precipitated from the exceptionally heavily saturated natural gas, as the normal crude

TANKER SHIPMENTS FROM LOS ANGELES TO ATLANTIC AND GULF COAST PORTS

Commodity—	Total this week	Daily average	Total last week	Daily average	This year to date	Same time last year
Crude oil	.....	.....	.....	.....	68,690	997,250
Fuel oil	.....	.....	.....	.....	71,950	49,950
Diesel and gas oil	91,281	13,040	.....	.....	2,385,476	1,210,934
Gasoline	440,782	62,969	464,010	21,143	13,175,474	13,486,828
Naphtha distillate	.....	.....	.....	.....	.....	81,750
Coastwise—						
Crude oil	516,123	73,732	148,000	21,143	10,145,603	16,670,306
Fuel oil	429,511	61,359	97,528	13,933	11,025,986	13,158,801
Diesel and gas oil	28,338	4,048	9,590	1,370	1,180,938	783,421
Gasoline	375,558	53,651	254,259	36,323	8,339,408	7,339,547
Kerosene	5,133	733	4,781	683	129,337	61,619
Exports—						
Crude oil	120,843	17,263	299,455	42,779	4,542,793	3,821,756
Fuel oil	355,484	50,783	335,877	47,982	11,885,697	12,131,987
Diesel and gas oil	80,080	11,440	90,758	12,965	3,070,163	1,657,606
Gasoline	289,433	41,319	284,910	40,701	10,445,063	7,443,638
Kerosene	128,039	18,291	119,449	17,064	2,698,205	2,215,191
Lubricants	4,598	657	.....	.....	14,680	.....

TANKER SHIPMENTS FROM SAN FRANCISCO TO ATLANTIC AND GULF COAST PORTS

Diesel and gas oil	.....	.....	.....	.....	227,648	.....
Gasoline	.....	.....	.....	.....	783,367	1,427,552
Lubricants	.....	.....	.....	.....	16,776	138,706
Coastwise—						
Fuel oil	48,728	6,961	40,181	5,740	2,337,108	1,832,413
Diesel and gas oil	5,140	734	16,211	2,316	190,516	342,313
Gasoline	25,910	3,701	45,910	6,559	2,733,846	3,444,526
Kerosene	.....	.....	1,901	272	152,702	96,996
Exports—						
Crude oil	.....	.....	.....	.....	3,075	121,603
Fuel oil	.....	.....	.....	.....	662,135	529,011
Diesel and gas oil	91,620	13,089	.....	.....	398,829	213,854
Gasoline	.....	.....	.....	.....	2,605,171	3,716,870
Kerosene	.....	.....	.....	.....	503,368	387,450
Lubricants	.....	.....	.....	.....	18,672	23,113

oil produced at Playa Del Rey averages approximately 23°.

The Playa Del Rey Field of Los Angeles Basin has not yet become an important factor in State production but from present indications the output of this field will probably exceed 25,000 bbls. per day within the next three months. The unusually rapid decline registered by producing wells in this field makes it rather hazardous to estimate future production but a check indicates that field production should be in the neighborhood of 25,000 bbls. per day before October 15. If additional development is undertaken in the eastern end of the structure where more favorable production can be expected, it is quite probable that Playa Del Rey's potential production will be considerably higher during November and December. The classification potential production, has been used in connection with Playa Del Rey because of probable curtailment which will artificially regulate current production.

Completions in the Playa Del Rey Field were not very numerous during the past week but a check indicates the probable completion of perhaps five wells within the next 10 days as 11 projects are standing cemented on top of the pay at the present time. The best well finished this week was the Mohawk Petroleum Co.'s well No. 1 in Block L, which registered an initial daily production of 910 bbls. of 22.1 gravity oil and 2,000,000 feet of natural gas. This new producer, finished in the upper, or Del Rey zone, was bottomed at 3,975 feet and completed with a 3-inch oil string carrying 295 feet of perforated. The Ohio Oil Co. increased its list of producers by finishing No. 1 Dickinson in the deep Recreation zone at 6,504 feet. The company was unable to secure a natural flow but succeeded in completing a 525-bbl. producer by installing a compressor.

New Work

Considerable new work is getting under way in the Playa Del Rey Field and this additional development is expected to be reflected in field production as early as October in as much as some of these wells will be completed in the upper, or Del Rey zone. Wells already nearing completion include the Elmer Oil Co.'s No. 3 Venice, Getty Oil Co.'s No. 2 Venice, Burkett & Braun's No. 1 Del Rey, J. M. Devere's No. 1 Baby Joe, Nickerbocker Petroleum's No. 1 Venice, Mohawk Petroleum's No. 1 Venice, Mutual Oil Co.'s No. 1 Baumgartner, Nelson Petroleum's No. 1 Venice and the Seashore Petroleum's No. 1 Del Rey. The Ohio Oil Co.'s discovery well, No. 1 Recreation, died during the early part of the week and the company will clean to bottom, 6,199 feet. A sand bridge was found at 4,570 feet and it is thought that this well can be brought back under a natural flow although No. 2 Recreation has failed to show commercial production since going to water a month or so ago. The Pacific Western Oil Co., with one drilling project under way in this field at the present time, has disposed of approximately 40 lots scattered throughout the field and these locations will be developed by Featherstone & Preston. The Westport Investment Co.'s No. 1 Deuel, located in the extreme eastern part of the Playa Del Rey Field, ran into a gas pocket at 1,040 feet during the early part of the week and the well got beyond control while the crew was coming out of the hole. The resulting blowout of 36 hours' duration attracted considerable attention, although the well was only blowing mud, water, sand and dry gas. The gas found in this well is not of any special significance as similar pockets are encountered at many points in Los Angeles Basin. It is comparable with similar dry gas found around the 1,000-foot level at Long Beach, 2,000 feet at Santa Fe Springs and correlates very closely as to depth with the gas accumulation which demolished two wells drilled by the Kitselman interests east of Playa Del Rey in 1922.

Long Beach

Completions in the Long Beach Field were not unusually numerous during the past week although several registered commercial production. The best well finished was Dabney-Johnston's No. 74 Signal in the Los Cerritos section of the field, which came in flowing 475 bbls. per day from the deep sand at 7,400 feet. No. 53 Signal, which the Dabney-Johnston interests completed last week flowing 500 bbls. per day from 6,994 feet, subsequently built up to 2,840 bbls. but has subsequently been pinched back in conformity with the curtailment agreement. Otis Hoyt's No. 11 Signal, completed this week, was good for 450 bbls. per day from 6,990 feet. The Cummings Petroleum Co. completed its first successful producer in the Long Beach Field by bringing in No. 1 Signal flowing 375 bbls. per day from 7,043 feet, the hole having been finished with a 4¾-inch liner carrying 640 feet of perforated

The Jameco Oil Co. recompleted No. 4 Signal after cleaning to bottom, 7,150 feet, but this well only showed a potential of 100 bbls. per day upon recompletion. Pellisser & Durkett's No. 1 Signal, which was finished in the deep sand early this week, was only good for 195 bbls. of 29.2 gravity oil cutting 10 per cent. This new well was bottomed at 7,210 feet and finished with a 4¾-inch liner carrying 780 feet of perforated. The Carter Petroleum put its No. 3 Long Beach on a preliminary production test but subsequently decided to wash out the perforations when it only showed an intial of 250 bbls. per day from 7,091 feet.

(Continued on Page 138)

SOUTH CENTRAL TURNER VALLEY TEST LOOKS LIKE COMMERCIAL WELL

By Victor Lauriston
Staff Correspondent, Canadian Fields

CHATHAM, Ontario, Aug. 30.—In the south end of Central Turner Valley, Structure Oil & Gas' No. 1, LSD 7, Section 31-19-2w5, has been brought into production in the big lime at 4,365 feet. Some time ago an initial wet gas flow was struck, estimated 3,000,000 to 5,000,000 feet. After deepening a little, some iron was dropped in the hole preventing further depth being made. A suction pump was run in and the hole cleared sufficiently to allow the gas to blow in, with decidedly increased production. Though no official estimates have been given out, it looks like a fair commercial well.

In South Turner Valley, Home Oil Co.'s No. 5, LSD 7, Section 20-19-2w5, some 400 feet in the lime at 4,890 feet depth, was given a shot of 300 quarts but the results have not yet been determined. The earlier Home wells, further north and west, got production between 125 and 225 feet in the lime, so that No. 5 indicates a sharp local dip toward south and east. On the other hand, Wellington's No. 1, in LSD 1, a little farther southeast with tools in the hole, is getting a good production from about half the lime depth.

Freezing Difficulties

The four earlier Home producers were among the largest wells in the field, but in recent months, due to freezing, their production has been intermittent. They are now back into full production. Home Oil Co. has provided for a diamond drill to be used for the especial purpose of cleaning out and preventing or correcting freezing conditions. The freezing apparently is merely a recurrent temporary condition and does not affect the ultimate aggregate production, but for the time being it reduces the yield to an unprofitable figure. The condition particularly affects the large producers,

(Continued on Page 132)

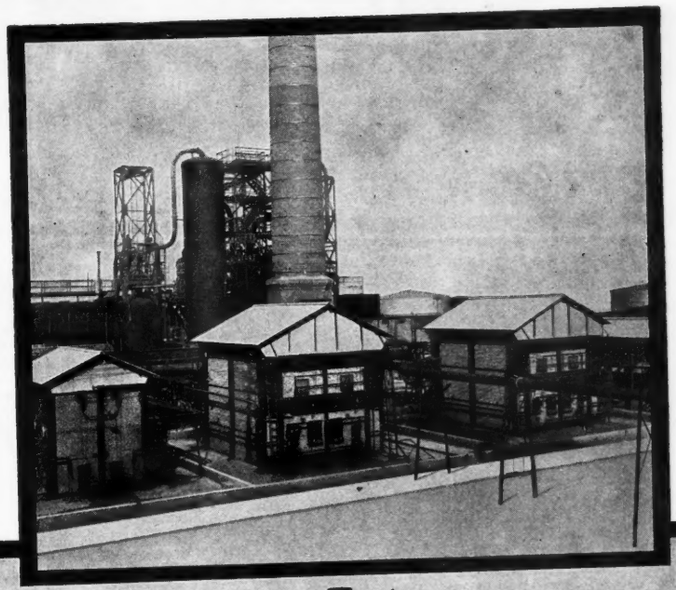
IMPORTANT NORTHERN CALIFORNIA WILDCATS

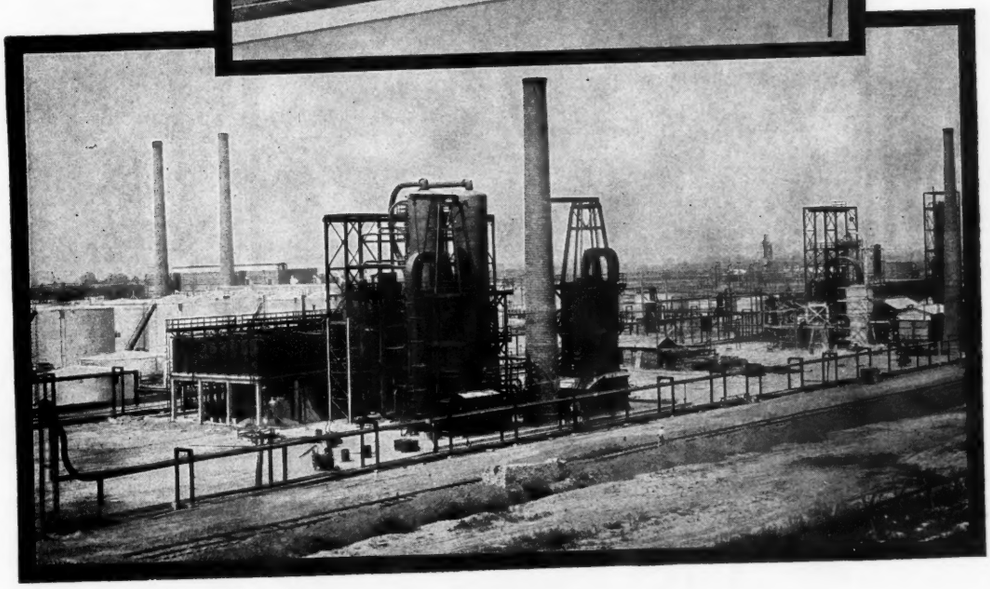
Company, well, location—	S-T-R	Depth	Status
Standard, No. 1 Point Conception, Santa Barbara Co.	X- 5-34	5,700	hd. sd. drilling
Universal Consd., No. 1 Pt. Conception, Santa Barbara Co.	30- 5-34	4,360	hd. sd. drilling
Prairie Oil Co., No. 1 Lompoc, Santa Barbara Co.	15- 7-35	4,930	hd. sd. drilling
Fields Gasoline Co., No. 1 Santa Maria, Santa Barbara Co.	8- 9-33	4,360	br. sh. drilling
Western Gulf, No. 1 Santa Maria, Santa Barbara Co.	5- 9-33	814	sd. drilling
Barnsdall, No. 1 Gato Ridge, Santa Barbara Co.	9- 8-32	3,190	sd. sh. drilling
Midwest Oil Co., No. 1 Los Alamos, Santa Barbara Co.	2- 7-33	mtl.	building rig
General Pet., No. 1 Goleta, Santa Barbara Co.	21- 4-28	4,533	shut in
General Pet., No. 2 Goleta, Santa Barbara Co.	21- 4-28	4,350	suspended
General Pet., No. 3 Goleta, Santa Barbara Co.	21- 4-28	1,010	sd. sh. drilling
General Pet., No. 134 Goleta, Santa Barbara Co.	21- 4-28	1,485	suspended
General Pet., No. 136 Goleta, Santa Barbara Co.	21- 4-28	1,016	suspended
General Pet., No. 137 Goleta, Santa Barbara Co.	21- 4-28	1,026	suspended
General Pet., No. 138 Goleta, Santa Barbara Co.	21- 4-28	4,931	suspended
General Pet., No. 139 Goleta, Santa Barbara Co.	21- 4-28	1,035	suspended
General Pet., No. 143 Goleta, Santa Barbara Co.	21- 4-28	1,040	suspended
Boles Oil Co., No. 140 Goleta, Santa Barbara Co.	22- 4-28	1,040	suspended
U. S. Pet., No. 141 Goleta, Santa Barbara Co.	20- 4-28	1,035	suspended
U. S. Pet., No. 142 Goleta, Santa Barbara Co.	20- 4-28	1,032	suspended
U. S. Pet., No. 143 Goleta, Santa Barbara Co.	20- 4-28	1,019	suspended
El Camino, No. 149 Goleta Tideland, Santa Barbara Co.	22- 4-28	1,035	suspended
Bolsa Chica, No. 191 Goleta, Santa Barbara Co.	24- 4-29	1,475	hd. sd. drilling
Caldwell Brown, No. 159 Goleta, Santa Barbara Co.	24- 4-29	1,040	suspended
Cochran, J. H., No. 1 Naples, Santa Barbara Co.	7- 4-29	2,670	sd. sh. drilling
Wildcat Oil Co., No. 1 Santa Maria, Santa Barbara Co.	20-10-35	5,470	sd. sh. drilling
Pacific Western, No. 1 Gibraltar, Santa Barbara Co.	14- 5-27	2,345	suspended
Shell, No. 1 Summerland, Santa Barbara Co.	18- 4-25	4,404	recemented
Continental, Tideland permit No. 121, Santa Barbara Co.	33- 4-25	1,085	abandoned
Continental, Tideland permit No. 122, Santa Barbara Co.	33- 4-25	1,020	abandoned
Continental, Tideland permit No. 123, Santa Barbara Co.	33- 4-25	1,020	abandoned
Continental, Tideland permit No. 124-A, Santa Barbara Co.	33- 4-25	418	abandoned
Continental, Tideland permit No. 125, Santa Barbara Co.	33- 4-25	1,455	abandoned
Continental, Tideland permit No. 126, Santa Barbara Co.	33- 4-25	1,034	abandoned
Continental, Tideland permit No. 127, Santa Barbara Co.	33- 4-25	1,055	abandoned
Continental, Tideland permit No. 128, Santa Barbara Co.	33- 4-25	1,054	abandoned
Continental, Tideland permit No. 129, Santa Barbara Co.	33- 4-25	1,020	abandoned
Exeter Oil Co., Tideland permit No. 163, Santa Barbara Co.	32- 4-25	76	abandoned
Shell, No. 5 Oxnard, Ventura Co.	14- 2-20	3,000	sd. sh. drilling
Prairie Oil & Gas Co., No. 1 Ventura, Ventura Co.	30- 3-22	7,105	sd. sh. drilling
Rio Grande, No. 1 Lankershim, Ventura Co.	13- 4-19	2,000	redrilling
General Pet., No. 1 Fillmore, Ventura Co.	6- 3-19	3,190	abandoning
Associated, No. 1 Rincon Creek, Ventura Co.	19- 4-24	2,080	suspended
Pure Oil Co., No. 1 S. P. Canyon, Ventura Co.	15- 4-21	1,706	sd. sh. drilling
Superior Oil Co., No. 1 Sespe, Ventura Co.	14- 4-21	148	sd. drilling
Lockwood Valley Oil Co., well No. 1, Ventura Co.	32- 8-21	mtl.	building rig
Nordon Oil Co., No. 1-A Buttonwillow, Kern Co.	7-29-24	4,865	sd. sh. drilling
General Pet., No. 1 Belridge, Kern Co.	30-28-21	mtl.	building rig
Richfield, No. 1 Belridge, Kern Co.	20-27-20	4,120	sd. sh. drilling
Rio Grande, No. 1 Belridge, Kern Co.	18-28-22	3,680	cleaning out
Shell, No. 1 Belridge, Kern Co.	25-28-20	rig	core hole
Shell, No. 1 Weed Patch, Kern Co.	29-30-29	5,179	sd. sh. drilling
Pet. Sec., No. 1 Edison, Kern Co.	14-29-29	2,425	hd. sd. drilling
Symark Oil Co., No. 1 Edison, Kern Co.	24-29-29	2,130	suspended
Sayre, F. M., No. 1 Edison, Kern Co.	5-30-29	4,220	suspended
Elmer Oil Co., No. 1 Tejon, Kern Co.	15-30-30	5,050	abandoned
Shell, No. 1 Semitropic, Kern Co.	17-27-23	5,670	sd. sh. drilling
Moran & DeCamp, No. 1 Mojave, Kern Co.	26-10-14	610	hd. sd. drilling
Bardeen, H. A., No. 1 San Emidio, Kern Co.	18-10-23	1,190	suspended
Bardeen, H. A., No. 2 San Emidio, Kern Co.	10-10-23	3,670	hd. sd. drilling
Stabler, W. W., No. 1 Commanche Pt., Kern Co.	4-11-18	2,040	redrilling
Ritchie, J. J., No. 1 Tejon, Kern Co.	33-11-19	2,650	sd. sh. drilling
Wrenn, J., No. 1 Antelope Plains, Kern Co.	32-25-17	812	suspended
Richfield, No. 1 Kreyenhagen, Fresno Co.	33-22-16	3,511	sd. sh. drilling
Ohio Oil Co., No. 1 Coalinga, Fresno Co.	8-21-15	3,890	sd. sh. drilling
Associated, No. 1 Jacalitos, Fresno Co.	22-21-15	...	location
Petroleum Securities, No. 2 Huron, Fresno Co.	28-20-16	7,390	suspended
Panorama Oil Co., well No. 1, San Luis Obispo Co.	7-31-21	4,019	suspended
Latin Amer. Pet., No. 1 Shandon, San Luis Obispo Co.	21-27-15	4,480	cleaning out
Paso Robles Synd., No. 1 Creston, San Luis Obispo Co.	27-27-11	3,941	cleaning out
Potter, F. J., No. 1 Atascadero, San Luis Obispo Co.	24-28-12	mtl.	building rig
Union, No. 1 King City, Monterey Co.	8-22- 8	3,250	suspended
Standard, No. 1 King City, Monterey Co.	23-22- 7	5,195	hd. sd. drilling
O'Donnell, J. E., No. 1 Dudley Ridge, Kings Co.	7-23-20	1,635	plug back
Penn Western, No. 1 Tulare Lake, Kings Co.	24-21-18	1,338	suspended
Wellport Oil Co., No. 1 Devils Den, Kings Co.	9-24-17	3,940	suspended
Twin State Oil Co., No. 1 Point Arena, Mendocino Co.	14-12-17	4,180	hd. sd. drilling
Oakdale Oil Co., No. 1 Oakdale, San Joaquin Co.	3- 2-10	3,535	suspended
Orinda Pet., well No. 1, Contra Costa Co.	32- 1- 3	620	sd. sh. drilling
White, Roy, No. 1 Pixley, Tulare Co.	8-23-26	4,022	suspended
Terra Bella Oil Co., No. 1 Porterville, Tulare Co.	35-22-27	918	testing
Western Oil Co., No. 1 Porterville, Tulare Co.	35-22-27	1,022	testing
Cons'd Prop., No. 2 Porterville, Tulare Co.	35-22-27	rig	rigging up
Terra Bella Drlg. Co., No. 1 Porterville, Tulare Co.	34-22-27	925	testing
Terra Bella Drlg. Co., No. 2 Porterville, Tulare Co.	34-22-27	850	sd. sh. drilling
Payatt Oil Co., No. 1 Porterville, Tulare Co.	34-22-27	rig	rigging up
Hallock, William, No. 1 Porterville, Tulare Co.	34-22-27	870	sd. sh. drilling
Larson Oil Co., No. 1 Porterville, Tulare Co.	11-23-27	693	sd. sh. drilling
Alexander, Ford, No. 1 Porterville, Tulare Co.	34-22-27	945	set pipe
Lewis, Paul M., No. 1 Porterville, Tulare Co.	15-22-27	rig	rigging up
Colusa Oil Co., No. 1 Bush, Colusa Co.	31-15- 4	688	hd. sd. drilling
Getty Oil Co., No. 1 Nigger Heaven, Yolo Co.	23-12- 3	425	sd. drilling

IMPORTANT SOUTHERN CALIFORNIA WILDCATS

Union, No. 1 Orchard Dale, Los Angeles Co.	10- 2-11	4,200	sd. sh. drilling
Olympic Realty Corp., No. 1 Venice, Los Angeles Co.	14- 2-15	500	sd. sh. drilling
Burlingham Pet., No. 1 Compton, Los Angeles Co.	17- 3-13	4,490	suspended
Francis, Don, No. 1 Compton, Los Angeles Co.	8- 3-13	572	recemented
Carlyn, C. H., No. 1 Compton, Los Angeles Co.	9- 3-13	1,000	sd. sh. drilling
Central Oil Co., No. 1 Compton, Los Angeles Co.	28- 3-13	5,094	cleaning out
Combs, E., No. 1 Compton, Los Angeles Co.	16- 3-13	570	sd. sh. drilling
Ohio, No. 1 Moneta, Los Angeles Co.	35- 3-14	7,418	abandoned
Guajome Oil Co., No. 1 El Nido, Los Angeles Co.	33- 3-14	rig	suspended
Cal. Ventura Oil Co., No. 1 Manhattan, Los Angeles Co.	30- 3-14	6,525	suspended
Cal. Ventura Oil Co., No. 1 Hermosa, Los Angeles Co.	31- 3-14	3,396	cleaning out
McMahon & McDonald, No. 1 Watts, Los Angeles Co.	12- 3-14	4,665	suspended
Tri-State Oil Co., No. 1 Watts, Los Angeles Co.	12- 3-14	4,590	sd. sh. drilling
Rio Grande Oil Co., No. 1 Watson, Los Angeles Co.	17- 4-13	6,295	fishing
Cal Well Drlg. Co., No. 1 Dominguez, Los Angeles Co.	11- 4-13	8,500	cleaning out
Shell, No. 1 Van Nuys, Los Angeles Co.	19- 2-15	4,650	sd. sh. drilling
Rio Hondo Pet., No. 1 Puente, Los Angeles Co.	14- 2-10	3,020	hd. sd. drilling
Bidart Oil Co., No. 1 Puente, Los Angeles Co.	15- 2-10	1,406	br. sh. drilling
Rucker, R. C., No. 1 Puente, Los Angeles Co.	27- 2-10	3,660	abandoned
Bardeen Pet., No. 1 Puente, Los Angeles Co.	9- 2-10	4,203	br. sh. drilling
Keck & Hall, No. 1 Puente, Los Angeles Co.	32- 2- 8	1,120	gas—shut in
Marcel Pet. Co., No. 1 Puente, Los Angeles Co.	31- 2- 8	2,810	br. sh. drilling
Celito Oil Co., No. 1 Monterey Park, Los Angeles Co.	25- 1-12	5,278	cleaning out
Los Gatos Oil Co., No. 1 El Monte, Los Angeles Co.	16- 1-11	1,950	cleaning out
Olympic Corp., No. 1 Calabasas, Los Angeles Co.	18- 1-17	5,695	recemented
Union, No. 1 Coyote Sansinena, Los Angeles Co.	30- 2-10	4,809	set pipe
Tureco Oil Co., No. 1 Whittier, Los Angeles Co.	29- 2-11	5,600	abandoning
Western Gulf, No. 1 Brea Canyon, Los Angeles Co.	28- 2- 9	6,588	fishing
Lamona Oil Co., No. 1 Pomona, Los Angeles Co.	34- 1- 9	890	hd. sd. drilling
Graham & Loftus, No. 1 Coyote, Orange Co.	18- 3- 9	6,204	cleaning out
Mesa Pet., No. 1 Newport, Orange Co.	21- 6-10	4,910	suspended
Hall, H. L., No. 1 Newport, Orange Co.	20- 6-10	790	suspended
Standard, No. 1 Newport, Orange Co.	26- 6-10	1,990	sd. sh. drilling
Fidelity Pet. Co., No. 1-A Murrietta, Riverside Co.	23- 7- 3	701	cleaning out
Hemet Pet. Co., No. 1 Ward, Riverside Co.	9- 5- 1	3,560	suspended
Imperial Valley Oil Co., No. 1 Brawley, Imperial Co.	32-11-10	3,000	hd. sd. drilling
McGregor Synd., No. 1 Del Mar, San Diego Co.	17-14- 3	1,265	cleaning out
Borderland Oil Co., No. 1 Encinitas, San Diego Co.	12-13- 4	2,430	hd. sd. drilling
Borderland Oil Co., No. 1 Point Loma, San Diego Co.	30-16- 3	2,420	gr. sd. drilling
Carr, O. K., No. 1 Capistrano, San Diego Co.	13- 8- 8	4,355	hd. sd. drilling
Grey, H. H., No. 1 Redlands, San Bernardino Co.	25- 1- 2	2,525	fishing
Girard & Grimes, No. 1 Corona, San Bernardino Co.	8- 2- 8	1,549	cleaning out
Western Gulf, No. 1 Santa Ana, Orange Co.	12- 3- 8	mtl.	idle

BADGER?





SONS COMPANY

TULSA HOUSTON BOSTON

Active Oil Men as They Faced The Journal's Camera

1—B. O. Hammond, representative, Parkersburg Rig & Reel Co., Fort Worth, Tex. 2—Surveying party and engineers surveying the Union-Gulf pipe line from Oklahoma to Pittsburgh. Top row, left to right: J. M. Counts, H. G. Counts, and B. A. Green. Middle row, left to right: H. C. West, truck driver; G. S. Ballew, U. E. Byers, J. E. Gardner, chief engineer, Fort Worth, in charge of the party; H. L. Lipps, R. B. Crabtree, and B. H. Woodbury. Bottom row, left to right: M. C. Page, B. H. Sones, G. E. Roberts, and J. C. Blewett. 3—E. H. Sellards, assistant director, Bureau of Economic Geology, State of Texas. 4—N. S. Longabaugh, manager oil and gas bureau, Fort Worth Chamber of Commerce. 5—Eddie Showers, drilling contractor, Van Pool, Texas. 6—A. W. Dixon, Brokaw-Dixon-Garner & McKee. 7—F. L. Williams, general manager of refineries; and Otis Mingus, refinery superintendent, Simms Oil Co., Dallas, Tex. 8—Left to right: J. S. Fox, scout, Arkansas Fuel Oil Co.; Jake Salter, scout, Pure Oil Co.; Benton Vernon, scout, Southern Crude Oil Purchasing Co.; and W. C. McMahon, scout, Transcontinental Oil Co., all of Tyler, Tex.

New Area Between Leck and Hendricks

Well Flows at Rate of 13,000 Bbls. Among Best Ever Completed in Winkler County. Two Offsets Being Prepared

By L. E. Bredberg
Fort Worth Bureau, The Oil and Gas Journal

FORT WORTH, Tex., Sept. 1.—The intervening acreage between the Leck Pool and Hendricks Pool, northern Winkler County, now appears as the most interesting area in the Permian Basin, absorbing much of the interest which has been displayed in Andrews and northern Ector County during the past few weeks. Atlantic Oil Producing Co. and J. C. Maxwell's No. 1 Leck in Section 16, Block 74, came in last week for 1,500 bbls. a day, flowing through 3-inch tubing with 4,000,000 feet of gas, making one of the best wells to be drilled in this county since the Hendricks Pool was in its prime. But this week when the well was opened up for a test it flowed at the rate of 550 bbls. of pipe line oil in one hour, or at the rate of better than 13,000 bbls. per day, taking its place among the best ever drilled in the county. Total depth is 3,081 feet, and it is located 1,650 feet from the south line and 2,310 feet from the east lines of the section.

Luther C. Turman, Fort Worth operator, who owns offset acreage, is erecting a derrick on a north offset location, and a south offset location will probably be made soon by the Tidal Oil Co. and Humble Oil & Refining Co. which own the south offset section. Gulf Production Co. owns the section to the east, and the Humble Oil & Refining Co. the one on the west. Several smaller leases are held by other companies and operators in the vicinity of this new well, but purchasing companies and proration may act as a dual control to cap activities to a minimum, and hold down the drilling in this area which has been dormant for many months. The well has been shut in for the past week awaiting pipe line connections.

Andrews and Ector

Fuhrman Petroleum Corp.'s No. 1 Ford in Section 16, Block A-43, Andrews County, which has been making about 26,000,000 feet of gas from 4,062-67 feet is slowly drilling ahead, but has not picked up any increase in gas or encountered any oil.

Southern Crude Oil Purchasing Co.'s No. 1 Cowden in the NE Section 26, Block 43, southeast of the Fuhrman gasser, about 16 miles, but in Ector County, encountered another gas showing this week at 4,036-40 feet and an oil show from 4,063-65 feet. About 40,000 feet of gas was found at this last gas showing, and about 50,000 feet was encountered up the hole at 3,943 feet. What little acreage there was to be sold between the Southern Crude and Fuhrman wells has commanded a fancy price, and acreage to the southeast of the former test is now getting attention from companies and operators.

The Penn Pool, Ector County, was given an allowance of 8,500 bbls. during the next proration period, the Burford Oil Co. increasing its take to 2,000 bbls. per day from 1,500 feet.

Crane-Upton Proration

The Railroad Commission adopted the Crane-Upton County proration report as recommended by the advisory committee, except that only four sections of Gulf leases on the McElroy ranch, adjoining the Church-Field Pool are to be included with that pool for proration purposes. The remainder of the McElroy ranch is to be exempted from proration and air and gas lift is not to be barred in producing some of the wells. This method of producing some of the wells created much discussion when the pool came up for proration, but a compromise was effective in helping to bring the operators to terms, with the adoption of the plan as recommended.

Exempting all but four sections of the McElroy ranch exempts about 7,000 bbls. per day, and the Crane-Upton areas are therefore cut to 29,000 bbls. and operators in these pools are allowed to run only 52 per cent of the oil instead of 60 per cent as formerly planned when all of the McElroy ranch was included in the proration of the two counties.

Howard-Glasscock

The Howard-Glasscock advisory committee met in Dallas this week and recommended that the shallow sand area of Howard County be included in the proration of pools in these two counties, adopting the following resolution: "Resolved that the Howard-Glasscock Fields be prorated on the basis of 12 bbls. minimum per well for wells producing from the 1,300 and 1,800 sands, and a 50-bbl. allowance per well be made on all wells producing from the 2,200, 2,500 and 3,000-foot sands, the remainder of the pipe line outlet to be allocated to all wells on the basis of excess potential, the average potential to apply to the Phillips-Coffee Field and total potential to apply to the Chalk, Dora Roberts and Henshaw Fields, provided, however, that this does not cause any reduction in pipe line outlet; the umpire to make allowance for water wells when necessary."

Some of the operators in the shallow sand area are objecting to this recommendation on the ground that the advisory committee was organized to handle the lime producing area only, and has no jurisdiction over the remainder of the field. They also stated that they were not advised of the meeting held on August 28 in Dallas.

A meeting of all operators of the pools in these counties will probably be called immediately in an effort to work out some form of proration for the shallow sand area, to be included under the proration of Howard-Glasscock Counties as pertaining to state-wide curtailment.

Wheat Pool

The Dixie Oil Co. and Phillips Petroleum Co. have evidently found a dry hole in their No. 1 Johnson in the east quarter of Section 38, Block 54, Township 2, T.&P. Survey, Loving County, in the Wheat Pool for the test was plugged back from a total depth of 4,707 feet to 4,435 feet and shot with 180 quarts from 4,365-4,435 feet, and filled 800 feet with sulphur water but little oil after standing 12 hours.

R. R. Penn and the Shell Petroleum Corp. have made a location 1,320 feet from the south and east of Section 37, Block Y, C.C.S.D.&R.G.N.G. Survey, eastern Upton County, on Shell's big block which was formerly tested by a 3,864-foot test by the Texas Pacific Coal & Oil Co., 2½ miles southeast of the new location, but that first dry hole has evidently not condemned the core drill structure which the Shell Petroleum Corp. located, and all those who were previous greatly interested in the area will have another chance at seeing a new pool opened in this part of the county and near their holdings.

Leck Area Limits

It may be interesting to note that in the Leck area, Winkler County, which has again become active, that the pool is defined on the north and west by a test drilled formerly by the Shell Petroleum Corp., in Section 3; is defined on the east by the Empire Gas & Fuel Co.'s No. 3-B Daugherty (Leck), and on the west by the Texas Pacific Coal & Oil Co.'s No. 1 Leck in Section 4, leaving the acreage to the south, toward the Hendricks Pool, open to prospective production and extension.

Taylor County

Taylor County had another small well added to its young pool this week when the Eastland Oil Co.'s No. 1 Hunter, 1,574 feet from the east and 3,418 feet from the south of the William R. Willis Survey No. 122, approximately 1,500 feet southeast of Dunigan Brothers and Shell Petroleum Corp.'s No. 1 French, topped the Dunigan pay at 2,380-82 feet and filled up 1,800 feet with oil, with an estimated 100,000 feet of gas, and was shut down for storage. The four wells in this pool have been shut in to around 75 bbls. per day, due to lack of pipe line outlet, except short small line to a loading rack on the T. & P. Railroad at Tye. The wells are all small producers, but the oil is of high gravity and sweet.

WILDCAT OPERATIONS IN WEST TEXAS

Week Ended September 1

Company, well, farm name, section and block—	Remarks—
ANDREWS COUNTY	
Deep Rock Oil Co. et al's No. 1 Mathis, 900 ft. from S and W, Sec. 4, Blk. A-46, Public School Land	Plugged back to 4,465 ft.; swabbing and cleaning out.
Deep Rock Oil Co.'s No. 1 Miles, 900 ft. S, 1,650 ft. E of NW cor., Sec. 22, Blk. A-46, School Land	Shut down 4,765 ft.
Fuhrman Pet. Corp.'s No. 1 Ford, 440 ft. from S and 2,200 ft. from W of Sec. 16, Blk. A-43, Public School Land	Killing gas 4,068 ft.
Deep Rock Oil Co. et al's No. 1 King, 330 ft. from N and 2,310 ft. from E, Sec. 11, Blk. A-46	Top pay 4,335 ft.; flows every 4 days; temporarily abandoned; total depth 4,454 ft.
Maer & Staniforth's No. 1 Meador, C SW, Sec. 8, Blk. A-41	Drlg. 3,515 ft.
R. R. Penn's No. 1 Wilson, C, Sec. 20, Blk. A-37, School Land	Shut down 4,775 ft.; makes small flow from 3,085 ft. every 2 or 3 days.
BREWSTER COUNTY	
Brewster Oil Co.'s No. 1 fee, 2,640 ft. S and 2,598 ft. E of NW cor., Sec. 45, Blk. G-15, G.C.&S.F. Sur.	Shut down 1,935 ft.
E. L. Chapman's No. 1 Skinner, C SW SE, Sec. 100, Blk. 2, G.C.&S.F. Sur.	Shut down 1,302 ft.
Trans-Pecos Oil & Gas Co.'s No. 1 Jones, 920 ft. from N and 2,500 ft. from E of Sec. 18, Blk. G-15, G.C.& S.F.R.R. Sur.	Drlg. 2,500 ft.
Van McPhail's No. 1 McIntyre, SE cor., Sec. 59, Blk. 352, 7 mi. S of Alpine	Shut down 1,750 ft.
COKE COUNTY	
Arkansas Fuel Oil Co.'s No. 1 Stepp, 1,020 ft. NE, 2,340 ft. W of SE cor., Sec. 35, Blk. 1-A, H.&T.C. Sur.	Drlg. 4,290 ft.
CONCHO COUNTY	
Beesley et al's No. 1 S. Waring Est., 1,320 ft. from S and E of A. T. Robinson Sur., Abst. 2,120	Spudded and shut down.
Turner et al's No. 1 Borsig, 150 ft. from S of NE cor., G. Emmig Sur. 130, 6 mi. W of Paint Rock	Shut down 1,520 ft.
CRANE COUNTY	
Cranfill Bros. and Gulf's No. 1 J. B. Tubb, 2,310 ft. from N and 330 ft. from E of Sec. 8, Blk. B-37, Public School Land	Fishing 3,993 ft.
Cranfill Bros.' No. 1 Muir, 330 ft. from N and 2,310 ft. from W, Sec. 23, Blk. B-27, Public School Land	Moving in material.
Cranfill Bros. et al's No. 1 J. F. Muir, 2,310 ft. from W and 330 ft. from N, Sec. 23, Blk. 27, Public School Land	Moving in material.
C. C. Duffey's No. 1-C Cowden Bros. & Co., 2,640 ft. from S and 3,960 ft. from W of Juan Cordona Sur.	Drlg. 2,632 ft.
CROCKETT COUNTY	
Dixie Oil Co. and Amerada's No. 2 Powell, 258 ft. N and 2,349 ft. W of NE cor. of Sec. 42, T.C. Ry., but located in Sec. 52, Blk. BB	Drlg. 700 ft.
Doleman & Moore's No. 1 Perner, 3,135 ft. from N and 1,485 ft. from E of Sec. 36, Blk. 2, I.&G.N. Sur.	Spudded and shut down.
Magnolia Pet. Co.'s No. 2 Hoover, 2,310 ft. from S and 335 ft. from E of Sec. 2, Blk. FF, B.&B. Sur.	Drlg. 712 ft.
CULBERSON COUNTY	
Grisham & Hunter's No. 2 Garren, 2,475 ft. from S and 1,566 ft. from E, Sec. 20, Blk. 89, Public School Land	Shut down 2,500 ft.
Kornrumpf et al's No. 1 Garren, 330 ft. S and W, Sec. 15, Blk. 79, Public School Land	Shut down 850 ft.
ECTOR COUNTY	
C. P. Davis et al's No. 1 Hendricks, C SW, Sec. 46, Blk. 42, Twp. 2s, T.&P.R.R. Sur.	Shut down 4,012 ft.; moving in new engine.
Humble Oil & Ref. Co.'s No. 1 Jones, 330 ft. from S and 423 ft. from W of Sec. 6, Blk. 44, T.&P. Sur.	Drlg. 3,390 ft.; show gas 3,355 ft.

(Continued on Page 116)

WEST TEXAS PRODUCTION

Week Ending August 30

County—	No. wells	Bbls.
Andrews	2	125
Crane	356	32,589
Crockett	48	1,886
Ector	62	7,138
Fisher	8	1,836
Garza	5	none
Howard-Glasscock	523	22,721
Irion	5	174
Jones	73	1,350
Loving	24	1,649
Mitchell	146	2,095
Pecos	439	107,976
Reagan	258	21,865
Runnels	3	9
Scurry	5	11
Taylor	3	79
Upton	251	7,261
Ward	34	2,846
Winkler		69,899
Total production this week		281,509
Total production last week		284,178

COMPLETIONS IN WEST TEXAS

Week Ending August 30

Crane County

Gulf Production Co.'s No. 179 McElroy, top pay 2,729 feet, initial production 500 bbls., total depth 2,930 feet.

Crockett County

Magnolia Petroleum Co.'s No. 1 Hoover, dry and abandoned, total depth 6,160 feet.

Ector County

Gulf Production Co.'s No. 2-B Connell, top pay 2,500 feet, initial production 235 bbls. in 12 hours, total depth 3,770 feet. Same company's No. 4 State-University, top pay 3,502 feet, shot with 300 quarts at 3,490 feet, initial production 455 bbls., total depth 3,502 feet. Humble Oil & Refining Co.'s No. 10 York, top pay 3,696 feet, initial production 211 bbls. in 24 hours, shot with 110 quarts from 3,687-3,742 feet, total depth 3,742 feet. Sunray-Llano Oil Co.'s

(Continued on Page 77)

Moore Most Active Panhandle County

Pipe Line Into Area and Expiration of Leases Within Few Months Prime Factor. Wildcat Discovery in Archer County

By L. E. Bredberg
Fort Worth Bureau, The Oil and Gas Journal

FORT WORTH, Tex., Sept. 1.—The proration report and recommendation for the Panhandle district, as drawn up by the advisory committee for this district, was adopted with one exception, that the marginal well basis should be only 25 bbls. instead of 50 bbls. as first recommended. This will cause the proration of the fields in this district to include many more wells than it would have under the plan as first submitted.

The Humble Oil & Refining Co. on August 28 cut its runs 20 per cent in North Texas (the Wichita Falls district) pending the working of the proration order of the Railroad Commission which cut this district to 69,000 bbls. per day or 9.3 per cent. This order of the Humble company applies to all wells to which the company has connecting lines instead of marginal wells.

Moore County is perhaps the most active county in the Panhandle district, especially in the area around the Operators Royalty & Producers Co. and the Barnsdall Oil Co.'s No. 1 Jones in Section 164, Block 3-T, T.&N.O. Survey. The Phillips Petroleum Co. has a line into this area now, and this line and expiration of leases within the next few months on acreage in this area, perhaps are the prime factors in the activity in this new area now.

A south offset to the above named discovery well, drilled by the Delmar Oil Co. has to be abandoned because of a junked hole, and the rig is being skidded 25 feet to the south. Other tests are being drilled in this vicinity and in other parts of the county, and the daily average production of the county will no doubt increase slowly but steadily, held down to a minimum by proration.

C. E. Beavers and others' No. 1 Furr in Section 22, T.E.&L. Survey, a 1,500-foot extension to Frank Butler and others' No. 1 Frick, Section 31, same survey, about 10 miles northwest of New Castle in Young County, created considerable interest this week when it topped the shallow sand at 689-92 feet, and filled the hole with oil, appearing good for at least 100 bbls. per day. This area is about 6 miles southwest of the Hennig Pool, the nearest production, and opens a separate and individual pool, somewhat on the order of the Riggs Pool about 3 miles north of New Castle.

The Bickley Pool in northern Wichita County, 5 miles northeast of Electra is one of the most active areas of the Wichita Falls district, although there are at present only three wells drilling. The pool lies in the C.&M.R.R. Survey, Abstracts 594 and 379, and the wells are producing 43 gravity oil from sands encountered at 840 feet, 1,000 feet and 1,700 feet. R. R. Clark's No. 1 Bickley was the original well drilled in the pool, and was drilled on acreage pooled by Clark, Perkins and Cullum, R. L. Underwood and others.

Southeastern Archer County is another semiactive spot in this district, having been opened by the discovery well of Gray and Johnson, No. 1 Pruitt. There are two new locations offsetting this discovery which is not yet completed, but is estimated good for 50 bbls. per day of 40 gravity oil.

P. R. Flake and others' No. 1 J. A. Bell in the NW Section 14, Block 5, Clarke and Plumb Survey, 4 miles southeast of Archer City, Archer County, is another wildcat discovery which is bringing attention to the area around it. This test topped an oil sand from 1,148-51 feet and started swabbing at the rate of 150 bbls. of oil per day. It has now settled to around 100 bbls. per day, and although there have been several dry holes drilled to the east of it, there is still plenty of room to the west and south for expansion and this well may have opened one of the most active spots that Archer County has seen for some time, due to the fact that it is in absolutely wildcat territory.

Deep Rock Oil Co.'s No. 1 Feler, 150 feet from the north and east of the west 80 acres of a 128-acre tract in the S. C. Clement Survey, which encountered a sandy lime at 1,478-87 feet and an oil sand at 1,487-92 feet last week, showing as a possible wildcat discovery in Cooke County, bailed only a small showing of oil, and a bailer of salt water per hour on a test after setting casing. It is now drilling deeper.

The area about 4 miles north of Cisco in Eastland County, in the Ranger district, is probably the most interesting area of that district, producing mostly gas, which is gathered and transported by the Lone Star Gas Co. This company has also produced several big wells in this area, its No. 7 Groves gauging 62,500,000 feet of gas, making one of the largest if not the largest gasser ever struck in the county. Another large gasser was brought in this week in this area, belinging to the Warner-Quinlan Co. of Texas on the Hittson ranch, production coming from the Ranger sand below 3,700 feet. With well bridged and tools in hole it made better than 30,000,000 feet of gas and is estimated good for 62,000,000 feet per day.

WILDCAT OPERATIONS IN TEXAS PANHANDLE

Week Ending September 1

Company, well, farm name, section and block—	Remarks—
CARSON COUNTY	
Empire G. & F. Co.'s No. 1 Sims, 2,310 ft. N, 990 ft. E, N½, Sec. 12, Blk. 7, I.&G.N. Sur.	Location.
Gibson Oil Corp.'s No. 1 Moore, 990 ft. N, 330 ft. E, N½ SE, Sec. 20, Blk. 7, I.&G.N. Sur.	Fishing 3,335 ft.
North American Oil Co.'s No. 1 Burnett, C NW, Sec. 97, Blk. 4, I.&G.N. Sur.	Drlg. 620 ft.
North American Oil Co.'s No. 1 Burnett, C SE, Sec. 98, Blk. 4, I.&G.N. Sur.	Drlg. 150 ft.
Reiger & Steckoll's No. 1 Martin, 330 ft. N and W, SW, Sec. 90, Blk. 7, I.&G.N. Sur.	12,000,000 ft. gas 2,815-2,910 ft.; U.R. 6-in. csg. 3,038 ft.
Shamrock O. & G. Co.'s No. 1 Duncan, 330 ft. S and W, NE, Sec. 5, Blk. 7, I.&G.N. Sur.	Drlg. 2,091 ft.
Sweeney et al's No. 1 Locke, 164 ft. N and W 40-ac. tr. along R.R. in Sec. 57, Blk. 7, I.&G.N. Sur.	S.D. 1,000 ft.
Texas Interstate P. L. Co.'s No. 1 Burnett, C SW, Sec. 6, Blk 5, B.&B. Sur.	Set 8-in. csg. 2,430 ft.
CHILDRESS COUNTY	
C. L. Sloane et al's No. 1 B. P. Smith, Sec. 49, F. P. Knott lands	T.D. 5,000 ft.
COLLINGSWORTH COUNTY	
Dixon et al's No. 1 Bell, 330 ft. N, 1,320 ft. W, Sec 102, Blk. 21, H.&G.N. Sur.	Location.
Shoupe Bros.' No. 1 Aldus, 410 ft. N, 330 ft. E, Sec. 96, Blk. 16, H.&G.N.R.R. Sur.	Show oil and gas 1,678 ft.; S.D. 3,155 ft.
DONLEY COUNTY	
Blue Bonnett Oil Co.'s No. 1 Ball, 1,075 ft. N line, 985 ft. E line, Sec. 22, Blk. E, D.&P.R.R. Sur.	T.D. 3,006 ft.; contract depth.
GRAY COUNTY	
Amalgamated German-American Oil Co.'s No. 1 Webb, 330 ft. S and W, E½ NW, Sec. 12, Blk. A-9, H.& G.N. Sur.	C.O. 1,500 ft.
Anderson & Bean's No. 1 Thompson et al, 330 ft. S and W, NW, Sec. 126, Blk. 3, I.&G.N. Sur.	Drlg. 857 ft.
Atlantic Oil Prod. Co.'s No. 1 Reynolds, 330 ft. N and W, NE SE, Sec. 84, Blk. 3, I.&G.N. Sur.	Drlg. 1,830 ft.
British-American Oil Co. and Shell Pet. Corp.'s No. 1 Smith, 330 ft. S and E, NW, Sec. 138, Blk. 3, I.& G.N. Sur.	Location.
Beck's No. 1 Sullivan, 330 ft. N and E, W½ NW, Sec. 135, Blk. 3, I.&G.N. Sur.	Spudding.
Cockrell-McIlroy Oil Co.'s No. 1 Baer, 330 ft. S and W, NE, Sec. 126, Blk. 3, I.&G.N. Sur.	S.D. 3,291 ft; S.O. 3,275-81 ft.
Cockrell-McIlroy Oil Co.'s No. 1 Allam, 330 ft. N and E of E½ NE, Sec. 127, Blk. 3, I.&G.N. Sur.	S.D. 3,330 ft.; P.B. 3,317 ft.; shot with 180 qts. 3,266-3,311 ft; swbd. 100 bbls. oil and 30 bbls. wtr.
Cockrell-McIlroy Oil Co.'s No. 1 Jackson, 330 ft. N and E of E 110 ac., SE, Sec. 138, Blk. 3, I.&G.N. Sur.	S.D. 2,558 ft.
Continental Oil Co.'s No. 1 Combs & Worley, 330 ft. S and E, NE, Sec. 36, Blk. 3, I.&G.N. Sur.	T.D. 2,905 ft; T.P. 2,885 ft; putting on pump.
Continental Oil Co.'s No. 1 Brown, 330 ft. S and W, Sec. 115, Blk. 3, I.&G.N. Sur.	Drlg. 1,800 ft.
Danciger O. & R. Co.'s No. 2 Bradford, C SW NE, Sec. 148, Blk. B-2, H.&G.N. Sur.	S.D. 2,311 ft.
Danciger O. & R. Co.'s No. 3 Arnold, 330 ft. N and E, SE, Sec. 149, Blk. 3, I.&G.N. Sur.	Rig.
Danciger O. & R. Co.'s No. 1 McLaughlin, 330 ft. S and E, NW, Sec. 33, Blk. B-2, H.&G.N. Sur.	Drlg. 1,811 ft.
Danciger O. & R. Co.'s No. 1 Catlin et al, 175 ft. S, 300 ft. E of N 71 ac. of E 231 ac., Sec. 57, Blk. 3, I.&G.N. Sur.	T.D. 3,120 ft; swbng. 20 bbls. oil per day.
Dye & Gillette's No. 1 McConnell, 330 ft. N and W, W½ SE, Sec. 137, Blk. 3, I.&G.N. Sur.	Drlg. 2,150 ft.
Empire G. & F. Co.'s No. 2-B Archer, 330 ft. S and E, SW, Sec. 139, Blk. 3, I.&G.N. Sur.	Building rig.
Empire G. & F. Co.'s No. 2 Sailor, 330 ft. N and W, NE, Sec. 138, Blk. 3, I.&G.N. Sur.	Rig.
Dick Graham's No. 1 Sullivan, 792 ft. N and W, Sec. 136, Blk. 3, I.&G.N. Sur.	S.D. 2,340 ft.
Jean Pet. Co.'s No. 1 Furneaux Bros., 330 ft. N and W cor. SE, Sec. 200, Blk. B-2, H.&T.N. Sur.	S.D. 2,283 ft.
Magnolia Pet. Co.'s No. 1 Cubine, 330 ft. N and W, NE, Sec. 36, Blk. 25, H.&G.N.R.R. Sur.	9,000,000 ft. gas 2,326-35 ft.; S.D. 2,775 ft.
Magnolia Pet. Co.'s No. 1 Sailor, 990 ft. S, 330 ft. W, E½ NE, Sec. 138, Blk. 3, I.&G.N. Sur.	Fishing 2,746 ft.
Magnolia Pet. Co.'s No. 2 Sailor, 330 ft. S and W, E½ NE, Sec. 138, Blk. 3, I.&G.N. Sur.	Cellar.
Midwest Exptln. Co.'s No. 1 Cobb, 1,320 ft. W, 400 ft. S, NW, Sec. 165, Blk. 3, I.&G.N. Sur.	Drlg. 2,390 ft.
Midwest Expltn. Co. et al's No. 1 Waggoner, 1,320 ft. W, 330 ft. N, Sec. 173, Blk. 3, I.&G.N. Sur.	S.D. 3,226 ft.; swbng. 9 bbls. per hour.
Nelson et al's No. 1 Crews, 330 ft. S and E, NW, Sec. 12, Blk. 25, H.&G.N. Sur.	3,500,000 ft. gas 2,295 ft; T.D. 3,263 ft; shot 140 qts. 3,160-3,258 ft.
Operators R. & P. Co.'s No. 1 Arnold, 330 ft. S and E, E½ NE, Sec. 149, Blk. 3, I.&G.N. Sur.	Cellar.

(Continued on Page 118)

COMPLETIONS IN PANHANDLE

Week ending August 30

Gray County

Danciger Oil & Gas Co.'s No. 5 Morse, shot 200 quarts from 2,545-2,606 feet, initial production 200 bbls.; total depth 2,606 feet. Panhandle Refining Co.'s No. 5 Saunders, total depth 2,645 feet; plugged back to 2,630 feet; shot 45 quarts 2,520-30 feet; initial production 25 bbls. Shamrock Oil & Gas Co.'s No. 4 Lincoln-Saunders, total depth 2,710 feet; plugged to 2,397 feet; initial production 12,000,000 feet of gas from 2,200-2,350 feet. Smith and McDaniel's No. 1 Chapman, dry and abandoned; total depth 2,925 feet. Shamrock Oil & Gas Co.'s No. 1 J. M. Saunders, dry and abandoned; total depth 3,175 feet. Champlin Refining Co.'s No. 4 McLaughlin, top pay 2,890-2,905 and 2,936-3,000 feet; initial production 1,200 bbls.; total depth 3,000 feet. Empire Gas & Fuel Oil Co.'s No. 1 W. E. Crow, top pay 3,215-35 feet; shot 100 quarts from 3,203-37 feet; initial production 80 bbls.; total depth 3,257 feet. Wilcox-Pampa Oil Co.'s No. 18 Combs and Worley, top pay 2,870-75 feet; initial production 200 bbls. on swab; total depth 2,925 feet.

Hutchinson County

Skelly Oil Co.'s No. 2 Byrd, plugged and abandoned; total depth 3,630 feet.

Potter County

M. Spiney's No. 1 Lee Bivins, 38,000,000 feet gas from 2,210-2,330 feet; total depth 2,350 feet.

Wheeler County

Murchison and Fain's No. 3 J. D. Purcell, top pay 1,554-1,863 feet; initial production 4,500,000 feet of gas; total depth 1,863 feet.

NORTH TEXAS PRODUCTION

Week Ending August 30

Panhandle district—	Bbls.
Carson County	8,935
Hutchinson County	20,616
Gray County	70,732
Moore County	348
Potter County	10
Wheeler County	750
Total production this week	101,391
Total production last week	99,091
Increase	2,300
Wichita Falls district—	
Archer County	16,590
Baylor County	900
Clay County	685
Cooke County	3,215
Foard County	179
Jack County	2,512
Haskell County	57
Montague County	6,796
Throckmorton County	775
Wilbarger County	22,440
Wichita County	25,170
Young County	13,469
Total production this week	92,800
Total production last week	94,356
Decrease	1,548
Ranger district—	
Brown County	6,009
Callahan County	3,188
Coleman County	2,871
Comanche County	1,200
Palo Pinto County	519
Eastland County	4,421
Shackelford County	7,073
Stephens County	5,000
Total production this week	30,879
Total production last week	30,847
Decrease	31

Make hole!

with this NEW ACME *PISTON VALVE* heavy duty SLUSH PUMP

HERE is a two-fisted up-to-date piston valve type pump. Guaranteed 250 lbs. pressure on fluid end and 1000 lbs. on the steam end.

Both the fluid and steam ends have interchangeable pistons. The extra heavy long one-piece cradle, heavily braced to the skids, insures permanent rigidity.

For convenience, capacity to "make hole" endurance and low upkeep you can't beat this new Acme 15" x 7¼" x 18".

[GET MORE FACTS]

TITUSVILLE OIL COUNTRY MACHINERY

Twin Cylinder Steam Engines
Single Cylinder Steam Engines
TICO 2-cycle Gas Engines
TICO 4-cycle Gas Engines
Rotary Drilling Equipment
Band Wheels—Geared Powers
A. S. M. E. Code Portable Boilers (Locomotive—Return Tubular)
Heating and Power Boilers
Air Compressors—Acid Blowers
Tanks and Steel Plate Work
Flapper Valve Pumps
Rotary Slush Pumps
Pressure and Vacuum Valves

BUILT WITH RESERVE RUGGEDNESS

THE TITUSVILLE IRON WORKS COMPANY
Division of Struthers Wells-Titusville Corporation
TITUSVILLE, PA.

Mid-Continent Office: 503 Exchange National Bank Bldg., Tulsa, Okla.
For Kansas, Oklahoma, New Mexico and Northwestern Texas: International Supply Co., Tulsa, Okla.
For California: California Machinery & Supply Co., 2449 Hunter St., Los Angeles, Calif.
For Louisiana, Arkansas and Southeastern Texas: Mid-Continent Supply Co., Ft. Worth, Texas
For Export: American Steel Export Co., Inc., 535 Fifth Ave., New York, N. Y.

TIW-70

TITUSVILLE OIL FIELD EQUIPMENT

GAS ENGINES ▲ PUMPS ▲ BOILERS ▲ DRILLING RIGS ▲ STEAM ENGINES

Pipe Line Construction News

PIPE LINE PROJECTS UNDER CONSIDERATION

By B. E. V. Luty

PITTSBURGH, Pa., Aug. 30.—Various pipe line projects have been on the boards lately, but in view of the time of year it may be that some will be held over to next year as producers are well filled and could not begin heavy deliveries very soon. Just how far ahead they are filled is not known, for on account of competitive conditions it is better to come down to the actualities only when there are negotiations as to time of delivery. It is understood that producers are quoting considerably higher prices than on the early orders placed in the spring.

There is a moderate volume of seamless oil country goods moving, as the activity is chiefly in deep-well territory.

Demand for standard or merchant pipe remains slack. Butt weld furnaces on the whole are running 40 per cent or less, while lap weld furnaces are practically all running full, on line pipe.

Steel demand in general seems to have reached a stationary level recently, later than usual, for the seasonal dip generally ends about July 1. This has resulted in the rate of steel production holding quite steadily, at slightly above half capacity, say 52 to 54 per cent. While the rate in percentage seems low it is not so low in point of tonnage, as capacity has been increasing year by year. There is even quite a lot of new construction this year. The latest announcement is that the Republic Steel Corp. will shortly begin actual work on its project, to increase 13 of its open-hearth furnaces from 85 tons to 110 tons capacity each, with provisions for an eventual enlargement to 250 tons. There are two other furnaces, smaller, which will not be affected.

From week to week there is no material change in activity in the different steel consuming lines. In general buying is of hand-to-mouth character, rush orders for small lots being common.

The recent drouth will not materially affect steel consumption. Farmer buying power has not been large in recent years and the agricultural implement works have been in their between-seasons period, not taking much steel. Damage to the canning crops has not been extensive except in the case of corn. The entire pack of either of the three big vegetables, tomatoes, peas and corn, involves only between 2 and 3 per cent of the total tin plate production of an average year, there being large consumption for milk, fruit and miscellaneous vegetables, while there is much consumption outside of fruits and vegetables.

Automobile production has gone quite contrary to the theory entertained just after the stock market collapse, that it would be very badly hit at first and then would gradually recover. Instead, production in each of the first five months of the year conformed closely to the average for the respective months in the five years through 1928, the whole five months showing 4.2 per cent gain over the average, while June was 5.4 per cent under the June average and July was 22.7 under the July average. There is no prospect of recovery in the remainder of the year. The seven-month production this year was just two-thirds that in the same period of 1929, when there was an exceptional bulge.

VICTORIA COUNTY LINE

HOUSTON, Tex., Aug. 30.—Houston Gulf Gas Co., a subsidiary of the United Gas Co., Houston, Tex., has started work of laying a 3-mile line from Lion Oil & Refining Co.'s wildcat gas well, No. 1 McFaddin, C. O. Edwards Survey, Victoria County. The line will connect with the company's main line to Houston.

PACIFIC LIGHTING CO.'S CONSTRUCTION PROGRAM

LOS ANGELES, Calif., Aug. 30.—Commenting on progress made by Pacific Lighting Corp. in its pipe line construction program, Vice President R. W. Miller said that pipe for the new 20-inch line which is to be constructed from the junction of the present Taft-Tehachapi line and the present Los Angeles line to a point near Saugus is on the ground, and construction probably will be completed by winter. This new line will parallel the recent 16-inch line now in operation and will make possible the transmission of from 50,000,000 to 60,000,000 feet of gas daily from Kettleman Hills to Los Angeles. The capacity of the present 16-inch line is approximately 20,000,000 feet.

The new 16-inch line from Elwood to connect existing lines near Los Angeles also is scheduled to be finished by the end of the year. These two projects will furnish an additional 150,000,000 feet or more daily to the Los Angeles territory by the winter of 1931-32 and it is believed that during the coming winter and spring 92,500,000 additional feet daily can be supplied.

TALK OF LINE TO ST. PAUL

CASPER, Wyo., Aug. 30.—The completion of the 12-inch gas line from the Glendive gas field in eastern Montana to Williston, N. D., was celebrated at Williston with a special holiday. This 12-inch line is too large for the comparatively short distance it now covers and it is thought the line is to be the beginning of a trunk system that will eventually serve St. Paul and Minneapolis.

Some difficult engineering problems were overcome in laying this line. Owing to the nature of the streams, it was found impractical to lay the pipe in the beds of the rivers crossed, so the line was laid on specially built bridges or hung from bridges already constructed. The Yellowstone River was crossed twice and the Missouri River was crossed once. To comply with the regulations regarding these streams being open for navigation, special arrangements had to be made so that the pipe lines can be raised should a steamer pass.

PROGRESS ON GREAT LAKES LINE

The construction work on the new Great Lakes pipe line from Barnsdall and Ponca City to Chicago, Minneapolis, St. Paul and Milwaukee has started at two points. The work of laying this gasoline line was started during the week at Ponca City east to Barnsdall in Oklahoma and will be 6-inch gas welded. Another crew are at work on the 8-inch main line from Barnsdall in Oklahoma north to Kansas City, Mo., which is the first loop of the main line that has been contracted. The entire first loop of the Great Lakes Pipe Line Co.'s project has been contracted by the Sheehan Pipe Line Construction Co.

TEXAS GAS FOR INDIANA

CHICAGO, Aug. 30.—Northern Indiana Public Service Co. and Interstate Public Service Co., subsidiaries of Central Indiana Power Co., together with other subsidiaries of Midland United Co., in Indiana, are to be supplied with natural gas from Texas fields through the pipe line under construction by Continental Construction Corp.

SUN COMPANY EXTENSION

HOUSTON, Tex., Aug. 30.—Sun Pipe Line Co. is laying a new 8-inch line from North Dayton to Liberty, Tex., a distance of approximately 10 miles. This augments the company's present system.

MIDLAND UNITED CO.'S GAS PIPE LINE SYSTEM

Development of the gas pipe line system of subsidiaries of the Midland United Co. in Indiana and western Ohio is proceeding rapidly. Approximately 185 miles of new line are being laid, which, when completed, will bring the total to 841 miles.

The Midland United group expects to be in position to distribute manufactured gas or natural gas or a mixture of the two, without large additional expenditures for a pipe line system. The Midland United Co., through control of utilities serving a large area in Indiana and western Ohio, has directed a program of expansion among its subsidiaries. A gas transmission system is being developed along the same general line as the electric transmission system. This program has made possible the closing down of small isolated gas plants where operating costs were high, and the inauguration of service over a wide territory from centralized plants.

The Interstate Public Service Co. is building a 24-mile pipe line from Bloomington to Bedford, a 21-mile line from Martinsville to Franklin, and a 40-mile line from Franklin to Seymour by way of Columbus. The Northern Indiana Public Service Co. is constructing a 38-mile pipe line from Logansport and a 6-mile line from Fort Wayne to New Haven, which has not had gas service.

The three lines which Interstate is building are further steps in the development of a system which that company began last year with the laying of a line between Martinsville and Bloomington. With the completion of the Logansport-Lafayette line and the Fort Wayne-New Haven line, the Northern Indiana Public Service Co. will own a gas transmission system with an aggregate length of 408 miles, the greater part interconnected.

The most extensive unified system of the Northern Indiana Public Service Co. is connected with the gas distributing center at East Chicago. Among the communities interconnected with this system in northern Indiana are Hammond, Whiting, Valparaiso, Crown Point, Michigan City, Hobart, Chesterton, Porter, South Bend, Mishawaka, Elkhart, Goshen, Bremen, Nappanee, Plymouth, Rochester and Niles, Mich.

A pipe line also connects East Chicago with Logansport, Peru and Wabash. Completion of the line between Logansport and Lafayette will also connect Lafayette, Crawfordsville, Attica and Williamsport with the Each Chicago distributing center.

The West Ohio Gas Co. is building 56 miles of additional transmission lines, connecting Lima, Ohio, with Delphos, Ohio, on the west and with Columbus Grove, Ottawa, Leipsic, Bluffton and Cairo, all in Ohio, on the north.

WORK ON UNION GULF LINE

The Union Gulf Pipe Line Co.'s 10-inch pipe line from Oklahoma east to Pittsburgh, Pa., Toledo and Cincinnati, Ohio, is progressing at a rapid rate. Since the first part of August 50 miles of 10-inch has been laid and ditched. The first 50 miles of the line brings it within 25 miles of the Missouri state line and it is expected this work will be completed and the work of laying the new line in Missouri will be started in a few weeks.

BUCKEYE VETERAN

ST. MARYS, Ohio, Sept. 1.—H. O. Hincher has completed 35 years of service with the Buckeye Pipe Line Co. He is now district manager and began with the company in 1895. He has not missed a day's work for 30 years which is quite a record.

TULSA-MUSKOGEE LINE AHEAD OF SCHEDULE

The new 112-mile Tulsa-Muskogee pipe line of Southwestern Natural Gas Co., subsidiary of Appalachian Gas Corp., is expected to be completed and in operation by September 15, two weeks ahead of schedule, according to announcement made by Harry Mann, vice president.

Construction of the new line, which will conduct gas from the Quinton Field of Oklahoma to cities and towns in the eastern part of the State, was started late in June. The main 16-inch line, between the gas field and Checotah, a distance of 40 miles, has been completed and tested, while final work on the 10-inch Muskogee lateral will be finished by the end of the week, making gas available for delivery at the Muskogee city gate by September 1.

Work on the 14-inch Sapulpa-Tulsa and the Boynton laterals is also nearing completion, and it is expected that by September 15 gas will be being delivered through them under long term contracts to Marion Oil & Gas Co. and Sapulpa Fuel Co. Construction of the Sand Springs and West Tulsa laterals will be proceeded with shortly.

WEST VIRGINIA GAS LINE

H. E. Danner, vice president and manager of Appalachian Gas Corp., announces plans for further development of the properties of West Virginia Gas Corp., control of which was recently acquired by Appalachian Gas Corp. Improvements include laying of a new pipe line, drilling of new wells and interlinking with pipe lines of other companies in the Appalachian Gas Corp. group in the West Virginia gas fields.

Work will commence immediately on a new pipe line to conduct gas from the Monickel Field in Lincoln County, West Virginia. The new line will connect the pipe line of Monickel Gas Co., subsidiary of West Virginia Gas Corp., extending from the Cabell County Field to Huntington, W. Va., with the Buffalo Creek Field pipe line of Allegheny Gas Corp. Appalachian Gas Corp. owns a 36 per cent stock interest in Allegheny Gas Corp. All of the gas delivered through the new line will augment the supply of natural gas now being sold under long term contract to International Nickel Co. and Owens-Illinois Glass Co. Schedules call for completion of the work by September 1.

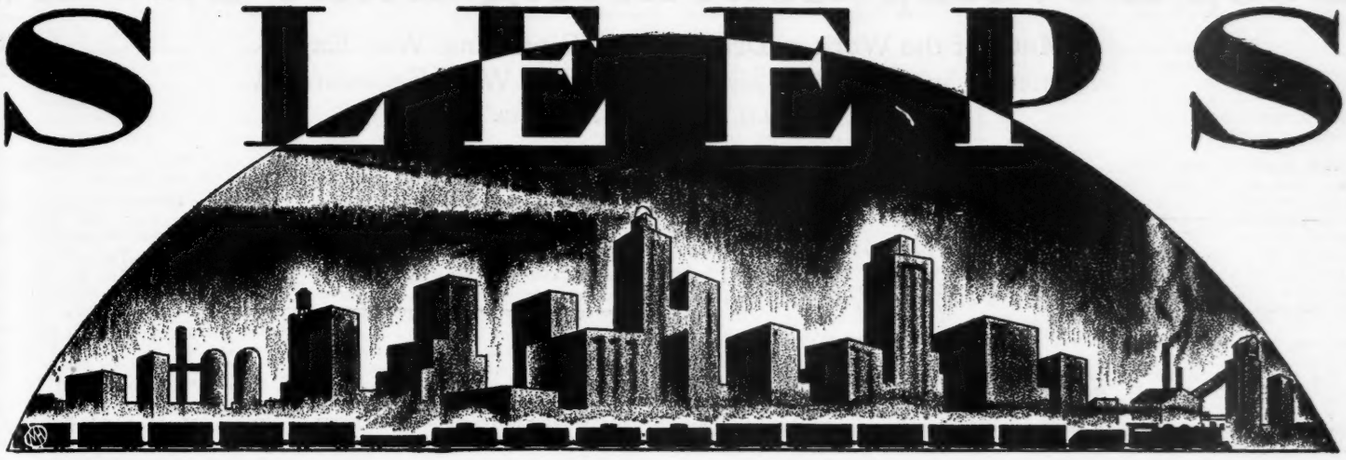
KENTUCKY EXTENSION

OWENSBORO, Ky., Aug. 30.—The Missouri-Kansas Pipe Line Co. is building an extension of its pipe line from the Owensboro Field into Henderson County. This line will cross the Green River at the hamlet of Delaware, and make a new outlet for gas. There is considerable gas to the south of Henderson County, in the Sebree Field of Webster County, where Craig & Lowery a short time ago brought in a test on the H. A. Walker farm, with 300,000 feet. The Niagara Oil & Gas Co.'s No. 1 on the Lea Gish farm, in the Niagara Pool, of Henderson County, was reported with an initial volume of 600,000 feet.

OKLAHOMA GAS LINE

A 6-inch natural gas pipe line has been completed to Hartshorne and Haileyville, Okla., by the Oklahoma Central Utilities Co., which has franchises for supplying natural gas to those towns and also to Wilburton. Work will proceed as rapidly as possible on construction of distribution lines in the three towns. Gas will be supplied from wells of the Central State Oil & Gas Co. near Blocker, Okla.

WHILE THE CITY SLEEPS



Business houses, wholesale and retail, may close up at five each evening but all night long the chugging of engines in the oil fields goes on. Time means dollars in this industry as in no other. A shut down for repairs is serious business.

That's why it is essential that much care and consideration is given the selection of a location for a warehouse, or shops for those houses that serve the oil industry. And that's why so many oil field supply houses are today focusing their eyes on Oklahoma City as the base of their operations in the Mid-Continent area.

By actual check Oklahoma City is from seven to twenty-four hours quicker to every major pool in the Mid-Continent field than any other shipping point and it is the only city within the area that can give overnight service to any point in the Mid-Continent.

Dependable electric power plays an important part, too. It is available through the state's largest interconnected power plant and transmission line system at attractive industrial rates.

Why not investigate Oklahoma City and its advantages as a shipping point to the Mid-Continent area? It will pay you well to do so.

OKLAHOMA CITY
Chamber of Commerce
OKLAHOMA CITY, OKLAHOMA

Better Transportation

July 28, 1930.

Mr. Ed. Overholser, President
Oklahoma City Chamber of Commerce,
Oklahoma City, Oklahoma.

Dear Mr. Overholser:

When we came to Oklahoma City, five years ago, we selected this location over several others for the following reasons:

First, Oklahoma City is the central geographical location with reference to the territory we serve.

Second, the transportation facilities for each and all parts of the Mid-Continent are better than could be found at any other point.

Third, banking and other financial facilities and relations are very satisfactory

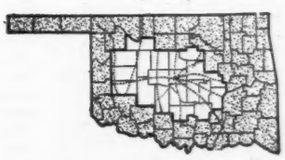
Fourth, labor supply and living conditions for those engaged in the business are very satisfactory.

Five years of operation here have confirmed my original conclusions. In every respect, this has proved to be the most advantageous location for our business.

Sincerely yours,

HUGHES TOOL COMPANY

R. C. Kuldell,
General Manager



For the Central Area of Oklahoma and the Mid-Continent, no other distributing point offers the transportation facilities of Oklahoma City. Seven railroads converge at Oklahoma City. Sixty class "A" Truck Lines operate one or more Trucks daily into and out of Oklahoma City serving 312 towns in Oklahoma direct as well as adjoining states. Air lines extend in each direction.

Visit the Great Oklahoma City Oil Field

While you are visiting the International Exposition in Tulsa, (Oct. 4-11) be sure to inspect the Oklahoma City field. Air, bus and rail transportation available almost every hour. You will want to see this new field.

Deep Development in Big Lake Oil Field

Much of the Work in Drilling and Producing Was Experimental in Character as New Problems Were Encountered

By Melvin J. Collins and Joe W. Folk
Big Lake Oil Co. Texon, Tex.*

This paper is quite general in character, due to the fact that comparatively few deep wells have been drilled in the Big Lake Field and data for comparison between methods used are scarce. Much of the work in drilling and producing is more or less experimental in character, in as much as new problems are presented in drilling wells to a depth of 8,600 feet or deeper and also in handling them after they are once producing.

The Big Lake Oil Co. has had very good success in drilling the wells with very little deviation from the vertical. The wells are checked frequently with a drift-meter in order to ascertain whether or not they are developing any crooks. The measurements on the wells of the Big Lake Oil Co. are as follows:

BIG LAKE OIL CO.
Well No. 1-C

	Degrees
1,000 feet	½
1,500 feet	4
3,000 feet	4½
4,480 feet	2
5,480 feet	4½
6,480 feet	3
7,480 feet	2
8,480 feet	1
8,580 feet	1
8,625 feet	1
Well No. 3-C	
2,000 feet	2
4,000 feet	1
5,000 feet	2¾
7,000 feet	1½
7,500 feet	2
8,000 feet	2¼
8,500 feet	2
Well No. 5-C	
250 feet	1
500 feet	¾
640 feet	¾

Temperature of Holes

Group One's well No. 1-B is the only deep well in the Big Lake Field in which the temperature has been measured at intervals. The readings were as follows:

	° F.
5,720 feet	122
6,500 feet	135
7,000 feet	143
7,500 feet	152
8,000 feet	161
8,300 feet	170

It will be noted that from 8,000 feet to 8,300 feet the temperature measurement by E. M. Hawtof showed an average increase of 3° F. per 100 feet increase in depth. If that condition is true in Big Lake's No. 3-C with a total depth of 8,923 the temperature should be approximately 190° F.

Problems Found in Deep Drilling

In drilling to 8,500 feet or more a great deal of painstaking care must be taken. Due to the enormous weight of the drill stem the drillers have to be very careful in watching the amount of weight that is applied to the bit. Too much weight will mean a crooked hole, locking of cones or kinking of the drill stem. In drilling with 3½-inch O.D. (inserted joints) drill stem to a depth of 8,900 feet the drillers used about 2½ points on the weight indicator in drilling hard lime.

Caving shales are another source of trouble in this field—they occur from 20 to 100 feet above the 8,200-foot pay. They are black in color and break readily into small blocks or cubes. Whenever the mud is thinned or the hole is washed preparatory to bringing in a well the shale falls in chunks and often the drill stem is frozen as a result. Or if the drill stem is out of the hole the caving will continue until the hole is filled up to level of the cave. Then the caved material has to be drilled out before testing can proceed. The drilling of this cave usually results in a plugged bit or a locked cone or two before reaching bottom.

*Before Southwestern District, A.P.I. Division of Production, Galveston, Tex., September 4, 1930.

In order to obtain good circulation and to keep the hole free from cuttings very high pressures must be carried on the pumps. As a result of such pressure much time must be spent in replacing gaskets and other parts of the pumps. The installation of a steel 3-pound rotary mud hose has resulted in a saving of much time and trouble in that direction.

Bringing Wells In

Where rotary tools are used the process of bringing in a well is comparatively simple. The mud is thinned by pumping water into the slush pit and then circulated through the pumps and hole until the returns are practically clean water—the drill stem is then pulled and when it starts to flow a $5\frac{3}{16}$-inch pipe, 130 feet in length is set down on a nipple, screwed into the blowout preventer and the well cleans itself by blowing through the top of the derrick. This device is called a "riser" and eliminates much fire hazard. A well is allowed to blow open five or six hours until all mud, water and cavings have been ejected. The gas being expelled when mud is present is brown in color but when thoroughly clean it looks like steam blowing into the air. For a day or two after the well is turned into the separators and tanks it is allowed to flow with no back pressure in order to make sure that all cavings and cuttings have been thrown out.

The equipment used for rotary drilling in the Big Lake Field is as follows:

Foundation—Concrete corners are used for foundations for the derrick. A 12x 12x20 cement cellar is now being used on recent deep tests.

Boilers—Three boilers rated at 125 horsepower each operating at 250 pounds per square inch supply the steam for the rotary rigs.

Engines—Twelve by twelve steam engines equipped with antifriction roller bearings on the crankshaft are used here. This engine, fully equipped with force feed lubricator driven by the valve steam, is fully enclosed and has the splash oiling system.

Rotary Drawworks—Steel H columns are now standard equipment on heavy rotaries. The drum shaft is 7 inches in diameter, has two post roller bearings for the drum shaft and the brakes are of the anchor screw type with equalizer. They are water cooled. The diameter of the line shaft is 7 inches.

Rotary Line—The wire line is 1⅛ inches in diameter with a wire rope center.

Crown Block—Manganese steel sheaves are used on the crown block and their grooves are larger than formerly in order to accommodate larger lines. The fast line is in line with the drawworks drum and the catline is in line with the drillers cathead at a safe distance from the other lines. Roller bearings were used on all fast sheaves.

Traveling Blocks—The traveling block is 66 inches long and weighs 6,600 pounds. The sheave diameter is 36 inches.

Rotary Swivel—The swivel has a 3-inch fluid passage and has a self-aligning threadless hose connection. The bearings are antifriction type. This swivel has a capacity of 76 tons, safe working load. The bail diameter is 4 inches and 4½ inches at the hook contact point.

Rotary Mud Hose—Steel 3-inch mud hose is being used very satisfactorily.

Rotary Hook—A 9-inch rotary hook with an antifriction bearing under the nut allows easy swiveling and is amply strong.

Rotary Drill Pipe—A heat-treated 3½-inch O.D. flush jointed drill stem is used weighing 13.3 pounds to the foot, which is very satisfactory. One string of 2⅞-O.D. flush jointed drill stem weighing 10.4 pounds to the foot was used where the hole was very small in diameter. However, the 2⅞-inch drill stem does not handle the cuttings nearly as well as the 3½-inch. Both strings of drill stem are heat-treated steel.

Rotary Table—A heavy chrome vanadium steel ring has replaced the old type of cast steel gear table. This ring is secured to the table and has gear teeth cut in it. The cones are tool steel and ground so as to fit properly in a cone race with an oil bath.

Rotary Drilling Bits—The bits used from a depth of 8,200 feet on down thus far are 4⅛-inch rock bits. The cones are self cleaning.

Mud Pumps—The slush pumps are 14½ by 7½ by 18 inches in size and are designed for 250 pounds per square inch steam working pressure and 1,500 pounds per square inch water pressure. It has a maximum piston speed of 120 feet per minute. These pumps handle the cuttings readily but are often down for replacing gaskets due to the high pressure that must be maintained.

Weight Indicators—Weight indicators are used on all rotary rigs. They enable the driller to allow the proper weight on his bit and show the rate the bit drills off so they are truthfully called "the eyes of the driller" in deep well drilling.

In drilling below 8,500 feet, 2½ points are usually applied to the bit when drilling lime and a rotary speed of 40 revolutions per minute for the rotary table.

Electric Rotary—The company used an all electric rotary on No. 1-C well from 8,430 feet to 8,662 feet and it worked very satisfactorily. This type of rotary would be especially valuable in an area where water was scarce.

The equipment with the electric rotary is as follows:

Two 25-65 horsepower motors.
One Hild differential electric drive w/automatic control.
One 200 horsepower motor for slush pumps 7¼ by 18 inches, belt driven.
One 353-K three-speed drawworks.
A 26-inch rotary table complete.

All other equipment was essentially the same as on the steam rotary.

Cable Tool Equipment

Crown Blocks—Manganese steel roller bearing 7-sheave crown blocks were used. No trouble was experienced on any of our wells. At first the standard babbit bearing crown blocks were used, however they gave considerable trouble.

Walking Beam—Steel walking beams of 26 feet and 27 feet were used. One steel riveted beam broke in the saddle, undoubtedly due to too many rivets.

Bandwheels—All cable tool wells were equipped with 12-foot, 14-inch face, a

TEXAS GUBERNATORIAL CANDIDATE WELL KNOWN IN THE OIL BUSINESS

Although not now actively engaged in the oil industry outside of lease and royalty holdings, R. S. Sterling, democratic candidate for governor of Texas, has played an important part in oil development on the Gulf Coast. One of the founders of the Humble Oil Co., he was largely responsible for the remarkable growth of the company, which now, as the Humble Oil & Refining Co., is one of the largest producers, refiners and marketers in the State of Texas.

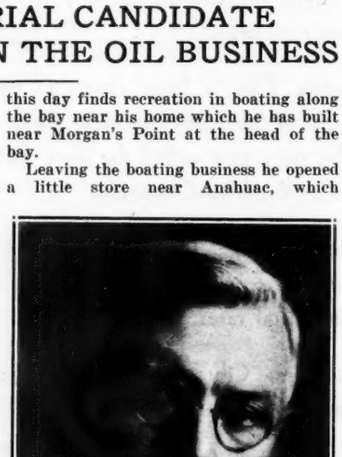
Mr. Sterling's introduction to the oil business was as a merchant and country banker in the town of Humble, Tex. The success which he attained in these lines enabled him to purchase, in 1910, two producing wells in the Humble Field, his first oil holdings. With these wells as a nucleus, and with the association of W. S. Farish, now president of the Humble Oil & Refining Co.; H. C. Wiess, vice president, and others, who had holdings in the Sour Lake Field, he backed what then was known as the Humble Oil Co.

Mr. Sterling was born in February, 1875, near Anahuac, a historic spot, on the west shore of Galveston Bay, in Chambers County, Texas. He had the heritage of a good name and a good family, although his father had suffered the South's common fate of poverty during the Civil War. At an early age it fell to young Ross Sterling's lot to help support the family, which consisted of seven brothers and four sisters.

Boating Business

While yet a boy, Mr. Sterling, to add to the meager income of the family farm, heeded the call of bay, and with some of his brothers started a small business of boating produce from neighboring farms across the bay to Galveston and other points and returning other merchandise. The business prospered and from one boat the fleet was gradually expanded to a number of boats. Young Sterling became an able seaman and to this day finds recreation in boating along the bay near his home which he has built near Morgan's Point at the head of the bay.

Leaving the boating business he opened a little store near Anahuac, which



—Photo (c) by Cecil Thomson Studios.

Ross S. Sterling

brought a small measure of success. For a time he left this line of business to become a salesman, but he returned to it, opening a feed and produce store in Sour Lake, and then another small store and bank at Humble.

In the meantime, at the age of 23,

(Continued on Page 78)

steel bandwheels with quadruple tug rims. No trouble was experienced with the exception of the following one: one 6-inch bandwheel shaft broke and one crank broke in the hole.

Calfwheels—Steel 7-foot, 6-inch calfwheels were used. While we were running casing in one deep well the clutch and sprocket wheel broke. We installed manganese steel parts and experienced no further trouble in any well thereafter.

Bullwheels—Eight-foot steel with two 12-inch double brake and triple tug bullwheels were installed. They gave very satisfactory service; however, it was found that better results could be obtained by putting one brake on each end of the bullwheel shaft.

Sand Reels—Various makes and types of sand reels were installed. The most trouble was experienced with back brakes. While going in the hole with the bailer the back brake would get unusually hot and crack. This was remedied somewhat by the use of water-cooled reels; however, not completely by any means.

Sand reels (10,000-foot line) with roller bearings were used. Below 7,000 feet it would take about 15 minutes to make a round trip with a bailer (in a dry hole). A double brake (with wood fillers) and water cooled sand reel was installed at No. 5-C Big Lake; however, it was used only to 2,400 feet before cable tools were taken out so it was not subjected to a real test. It, however, appears to be an improvement over those previously used.

Considerable trouble was also experienced with the spooling flanges bulging out and of course making proper spooling almost impossible. This was remedied by making the flanges thicker and by tapering a little shoulder on the inside of the flanges at the bottom.

Motors—Two 25-65 horsepower electric motors (twin motor installation) were used in drilling all deep wells with the exception of No. 5-C Big Lake. At this location, we installed a 35-75 horsepower motor (twin motor installation) with auxiliary controls. Our experience in the drilling of these wells was that 25-65 horsepower motors were hardly large enough in all cases.

Countershaft—The standard size roller bearing countershaft was used and gave very satisfactory results.

Drilling Lines—Most every make of drilling line was used in the drilling of the deep wells. About 26 days is the best run made by any line. Various sizes of lines were used, viz. 1-inch, ⅞-inch, ¾-inch, and tapered lines (3,500 feet of 1-inch, 4,000 feet of ⅞-inch, and 2,500 feet of ¾-inch). The best drilling motion was obtained by using the ¾-inch line, however, the ⅞-inch line seemed to give the best srvice. Plow steel and mild plow steel (6x19) lines were used almost exclusively. The mild plow steel lines seemed to give the best results. In the drilling of the deep wells very little line trouble was experienced up to 7,000 feet. We experienced about the same trouble with all the lines, viz., pulling apart at a point 50 to 150 feet below clamps. This was probably due to the jerking and also to the weight of the line.

Sand Lines—Several different makes of sand lines were used. We originally started out using ½-inch and $\frac{9}{16}$-inch sizes; however, later it was necessary that we put on ⅝-inch lines. Our experience with the ½-inch and $\frac{9}{16}$-inch line was as follows: The lay would come out of these lines at a point about 200 feet from the top. Where there were about six lays per foot it would uncoil to about one and the core would come out. By using a ⅝-inch line this condition was remedied somewhat. As the line was stronger it would not uncoil as much and permit the core to come out. Even though it did uncoil some it still had sufficient strength for some further use.

Belts—After only a very short time it was decided to use 14-inch eight-ply endless belts with idlers. A cord belt was used as well as rubber belts, however, both gave very good service. It was found that the idlers were very essential in keeping the belts taut, thereby increasing the life.

Eleven-inch, five-ply rubber motor belts were used. They gave very satisfactory service.

Derricks

Tubular steel derricks 122 feet in height with 26-foot base were installed on all deep well locations. These derricks had tubular legs and and relegs with angular braces and girts. They are equipped with California tops. Group One Oil Corp.'s No. 1-B University was drilled the entire depth with an 81-foot tubular derrick. Big Lake Oil Co.'s No. 3-C University was drilled to 8,585 feet and Big Lake's No. 4-C University to 8,220 with 81-foot tubular derricks. However, in all cases cable tools were used. When it was decided to deepen Big Lake Nos. 3-C and 4-C with rotary tools the 122-foot derrick was installed.

All deep well derricks have concrete corners. The floor and walls of the cellar are also concrete.

Casing—Lapweld casing was used by the Big Lake Oil Co. for the larger pipe, while seamless was used for the smaller. On all strings of pipe below 6,000 feet, seamless Simancro grade "D" (A.P.I.) was used by Big Lake Oil Co. All casing used by Group One Oil Corp. with exception of 20-inch was Simancro. This does not apply to the discovery well, where no Simancro casing was run.

In running the long strings of casing it was found that the tension was slightly better than 1 inch per 100 feet. About two-thirds of this tension was taken up prior to cementing. Cement casing shoes were run on all long strings to be cemented.

Cast iron and cement float shoes were used to float the casing in the well. The original (short) cement shoe was used on two occasions and it did not hold until bottom was reached in either case. However, the 30-inch length was found to be very satisfactory. When cable tools were used a float shoe and one collar were put in (either cast iron or cement). In case of rotary tools, a cement guide with two cement collars. Nonmetallic back-pressure valves are used in the float collars and shoes.

Casing Blocks—A steel 7-sheave roller bearing block was used and gave very satisfactory results.

Back Pressures

Our experience with back pressure on the deep well (8,500-foot pay) is as follows: As the back pressure is increased the gas oil ratio decreases while the gravity and production of the well show increases.

Big Lake's No. 1-C started producing with a back pressure of 25 pounds. Its gravity at this pressure was 52.8°Be. and the gas oil ratio 20,000 feet per barrel. The well showed a gradual increase in production till the pressure was raised to 300 pounds. The second day after this pressure was applied, its production jumped over 200 bbls. in one day, the gravity increased to 61.2 Be. and the gas oil ratio dropped to approximately 12,000 feet per barrel of oil.

Big Lake's No. 2-C started producing from the deep pay at 70 pounds back pressure. The gravity of the oil was 58.9° Be. and its production 1,246 bbls. Gas-oil ratio was approximately 20,000 cubic feet per barrel. The production increased to 1,362 bbls. in the next two days with the same back pressure. The following day the back pressure was increased to 390 pounds and the production was 1,636 bbls., the gravity 62.6°Be. and the gas-oil ratio about 17,500 cubic feet per barrel of oil.

The gas, after passing through the separator with the back pressure at the well of less than 100 pounds, has a gasoline content of approximately one gallon per 1,000 cubic feet. After the pressure is increased to several hundred pounds the gasoline content of the gas drops to approximately one-half gallon per 1,000 cubic feet of gas.

As stated above, by increasing the back pressure the production and gravity increases while the gas-oil ratio decreases. This, however, is not as pronounced after the first 300 pounds pressure.

Gas-Oil Ratios

The gas-oil ratios of the deep (8,500-foot) wells in Reagan County, Texas, vary between 9,500 feet to 15,000 feet per barrel. The Kettleman Hills Field in California (7,400-foot depth) has a gas-oil ratio of approximately 30,000 feet per barrel of oil. In the Oklahoma City Field (6,500-foot) the gas-oil ratio is from 1,000 feet per barrel to 15,000 feet per barrel. Hydrostatic pressure, however, is of some help in this particular field.

Christmas Tree Connections and Flow Lines—All strings of casing are connected together with Reagan Head (bradenheaded together).

A master gate on each of the two inside strings of casing.

There are four 4-inch lines from each well to the separator two from cross below smallest master gate and two from cross above smallest master gate.

Each flow line has a block gate and a Shaeffer automatic flow bean.

The casing is anchored both vertically and horizontally.

All fittings (gates, connections, etc.) are 2,000 pounds working pressure (4,000-pound test).

Oil and Gas Separators—Standard pressure oil and gas separators were first used by the Big Lake Oil Co. but later changed over to high pressure. The change was necessary as a gasoline plant is being built which requires an intake pressure of 300 pounds. The separators are set on the ground near the battery.

Dangers Attendant to High Pressures

The production of the Texan Deep (8,500-foot) wells is merely a wet gas. Double valve bailers (one valve in top and one in bottom) have been run several times in wells while the gas was blowing but in every instance the bailer came out empty. Accordingly this high volatile gas when under a large pressure if allowed to expand rapidly will cause cooling at a fast rate. Pressures of from 800 pounds to 1,600 pounds at the well and rapid expansion to the gas traps has resulted in our connections freezing up. The difference in pressure is due to outside temperature and apparent existing conditions in individual wells. Our experience has taught us that each well is a problem by itself.

The extreme volatile gases produced by these deep wells presents a fire hazard that makes it necessary to use all possible precautions.

Analyses of Oil

Group One Oil Corp.—Analysis of oil from No. 1-B well (deep well), total depth 8,525 feet:

		Grav.
66.9%	Gasoline	58.7
24.6%	Kerosene	41.3
6.5%	Gas oil	33.7
1.0%	Bottoms	
1.0%	Loss	

Big Lake Oil Co.—Report on oil from Big Lake's No. 3-C, 8,379 feet, with 25 pounds pressure:

Specific gravity at 60.0°F.	0.7507
Degrees (A.P.I.)	57.0
Weight per gallon	6.249
Total sulphur	0.05%
Hydrogen sulphuric	None

Analysis of gas from Big Lake's No. 4-C University (8,220 feet):

	Pct.
Methane	79.2
Ethane	10.5
Propane	5.8
Butane	2.9
Pentanes and higher	1.6

Character and Thickness of Pay Zone

The deep pay of the Big Lake is in a grayish brown dolomite. The dolomite shows some oil and gas from the time it is tapped until drilling is stopped. Increases usually occur when the dolomite softens—due to better porosity or the presence of more minute sand particles. The best pay encountered in Group One's No. 2-B was from 8,474 to 8,489 feet. The top of the pay was 33 feet in the dolomite. In the Big Lake's No. 2-C the main pays come 22 feet to 37 feet in the dolomite. The most lime drilled in any well was in Big Lake's No. 3-C, where 100 feet of lime (dolomite) was penetrated.

Structural Conditions and Relation to Size of Wells

From the evidence at hand it looks as though sand conditions and porosity were going to be more important factors in determining the size of wells than structure. Group One's No. 1-B and Big Lake's No. 2-C are both considerably lower than Group One's No. 2-B structurally, but they are both better wells. If the Big Lake Field is in any way analogous to Oklahoma City Field, the flanks of the structures should contain more sand than the top and as a consequence longer lived wells.

Ultimate Recovery

Judging from pools in Oklahoma that are producing from the Arbuckle or Ellenberger lime, a recovery of 25,000 to 75,000 bbls. per acre can be expected.

Group One's No. 1-B has already produced close to 1,600,000 bbls. and is still producing 2,750 bbls. per day.

WEST TEXAS FIELDS

(Continued from Page 71)

No. 1 Jones, top pay 3,750 feet, initial production 50 bbls., shot with 40 quarts from 3,786-3,806 feet, total depth 3,823 feet.

Glasscock County

Humble Oil & Refining Co.'s No. 1 Arrington, top pay 2,285 feet, initial production 560 bbls. in 17 hours, total depth 2,300 feet.

Loving County

Dixie Oil Co. and Phillips Petroleum Corp.'s No. 1 Johnson, shot with 180 quarts from 4,365-4,435 feet, dry and abandoned, total depth 4,707 feet. L. E. Lockhart and others' No. 2 Wheat and Ramsey, top pay 4,195 feet, shot with 85 quarts, dry and abandoned, total depth 4,233 feet.

Lynn County

George McCamey's No. 1 Edwards, dry and abandoned, total depth 5,284 feet.

Pecos County

Continental Oil Co.'s No. 8-A University, top pay 1,000 feet, initial production 100 bbls. in 24 hours, shot with 10 quarts from 1,000-10 feet, total depth 1,030 feet. Perren and others' No. 1 Pure Jackson, top pay 1,560 feet, initial production 2 bbls. oil and 1,500,000 feet of gas, total depth 2,438 feet.

Tom Green County

W. D. Wiley's No. 1 Ed Mayer, dry and abandoned, total depth 818 feet.

Upton County

Gulf Production Co.'s No. 1-B Shirk, top pay 2,503 feet, initial production 210 bbls., total depth 2,685 feet.

Winkler County

Southern Crude Oil Co.'s No. T-188-N-8, top pay 2,942 feet, initial production 129 bbls., 36 per cent sulphur water, total depth 2,996 feet.

Runs Through Trunk Lines

Company, size and location—	Bbls.
Atlantic, 10-inch, Houston	27,065
Gulf, 10-inch, Ranger	40,104
Humble, 2-8-inch, San Angelo	42,775
Humble, 10-12-inch, Station "A"	53,356
Illinois, 2-8-inch, Del Rio	36,050
Magnolia, 8-inch, De Leon	25,550
Pasotex, 8-inch, El Paso	12,548
Shell, 10-inch, Healdton	36,563
Shell, 10-inch, Houston	25,661
Texas, 12-inch, Houston	15,971
Total	313,633

Runs to West Texas Refineries

Amarillo Ref. Co., Pyote	None
Big Spring Ref. Co., Big Spring	997
Burford Ref. Co., Pecos	3,794
Bluebonnet Ref. Co., Wickett	None
Cosden Ref. Co., Big Spring	None
Col-Tex Ref. Co., Colorado	6,500
Great Western Ref. Co., Big Spring	2,564
Humble Oil & Ref. Co., McCamey	9,980
Mid-Tex Ref. Co., Midland	None
Richardson Ref. Co., Big Spring	None
Tonkawa Ref. Co., Pyote	2,027
Wickett Ref. Co., Wickett	160
Total	25,962

Tank Car Shipments

Fox and Thorsen from Mertzon	175
Thomas and Brann from Grant City	25
Orient from Hurdle	80
American from Pyote	10,078
Southern Crude from Wickett	11,743
Total	22,101
Total daily average distribution	361,696
Total daily average production (including Lea County, N. Mex.)	326,509
Daily average from storage	35,187

INTERNATIONAL GAS LINE

CHATHAM, Ontario, Aug. 30.—Rapid progress is reported with the new international pipe line connecting the Rogers-Imperial well in southern Alberta with the existing pipe line system at Telstadt, Mont. Ten-inch pipe has been strung from Telstadt to Whitlash, and 8-inch will be used for the branch line to the Rogers-Imperial well.

IMPORTANT MERGER OF PHILLIPS-INDEPENDENT

(Continued from Page 40)

sioned no surprise, as the brothers have frequently discussed the question of joining forces. The Phillips Petroleum Co., of which Frank Phillips is president and L. E. Phillips, vice president and general manager, has headquarters in Bartlesville, Okla., where the company has a large office building which it is now planning to greatly enlarge. The Independent Oil & Gas Co., of which Waite Phillips is chairman of the board and Robert C. Sharp is president, has headquarters in Tulsa in the Philtower, a skyscraper erected and owned by Waite Phillips. Both companies are producers, transporters, refiners and marketers of petroleum and its products. It is said that the consolidated corporation will be known as the Phillips Petroleum Co.

The Independent Oil & Gas Co.'s producing properties lie in several states. The company's production in Oklahoma is in the Greater Seminole area of Seminole and Pottawatomie Counties, and in Okmulgee, Okfuskee, Creek and Oklahoma Counties; in Kansas mainly in Greenwood County, with production also in Chase, Lyon, Cowley, Reno and Rice Counties; in Texas in Winkler, Crane, Upton, Young and Refugio Counties; in New Mexico in Lea County.

The Phillips Petroleum Co.'s production lies in Seminole, Okfuskee, Okmulgee, Osage, Creek, Kay, Tulsa, Washington and Oklahoma Counties, Oklahoma; Butler, Marion, Sumner, Russell, Rice, McPherson, Sedgwick and Cowley County, Kansas; Hutchinson, Carson and Wheeler Counties in the Texas Panhandle; Wilbarger, Archer, Young, Stephens, Shackelford, Jones, Eastland, Callahan and Brown Counties in North Central Texas; El Dorado and Smackover Fields in Arkansas; Caddo Parish in North Louisiana and in Estill County, Kentucky.

Refining Facilities

The Phillips company operates a refinery at Borger, Tex., with a crude oil capacity of 12,000 bbls. daily. The Independent company has a 5,000-bbl. refinery at Okmulgee, Okla., and a 6,000-bbl. plant at Kansas City, Kans. All refineries have cracking facilities and the Okmulgee refinery manufactures bright stock and steam refined stocks. The refineries have their own gathering systems connected to the refineries for crude oil supplies.

Natural Gasoline

The Phillips company for several years has been the largest manufacturer of natural gasoline. At present it has 47 operating plants in the Mid-Continent area with two under construction. The capacity of these plants is in excess of a million gallons daily with over 220,000,000 gallons actual production in 1929.

The Independent at present has seven natural gasoline plants located in Oklahoma and Kansas. These plants have a rated capacity of 87,000 gallons.

In connection with its natural gas and natural gasoline operations the Phillips company has become a large manufacturer of special products. In connection with its natural gasoline operations the company manufactures liquefied gases used for domestic heating and by industries. The domestic gas is now distributed in 15 districts and is also sold to 27 distributing companies.

Both the Phillips and Independent companies are sellers of natural gas. The first company, it is claimed, supplies 50 per cent of the natural gas used in the manufacture of carbon black. Through a partially owned subsidiary the company is also a manufacturer of carbon black.

Pipe Lines

The Phillips company recently started the construction of a 700-mile, 8-inch pipe line extending from its Borger, Tex., refinery to St. Louis via Wichita, Kans., and Kansas City, Mo. The line is being built to transport gasoline from the refinery to part of the consuming territory served by the Phillips bulk and retail stations.

In addition to the gasoline line, the Phillips company has over 5,000 miles of gathering lines in connection with the operation of its natural gasoline plants.

Marketing

In the operation of bulk and retail stations the Phillips and Independent companies operate in several areas. The Independent company has several hundreds stations extending south from Minnesota to Oklahoma. The Phillips company has a large number of stations in the same general territory. The company has been active over the past three years in marketing and a recent report showed nearly a thousand bulk and retail stations in 12 states of the Middle West. The company has purchased or built a large number of stations in the vicinity of St. Louis, the eastern terminus of the gasoline pipe line.

Interesting Experiences

The business lives of the three Phillips brothers constitute one of the many romances in oil. Frank Phillips was born in southeastern Nebraska and Lee and Waite were born in Conway, Iowa. Their father, Lewis Phillips, saw to it that the boys had a good common school education and later sent them to a business school.

Frank Phillips came into Oklahoma in the early days of the Bartlesville Field to look over the area with the object of investing. He was followed by his brother Lee, just younger than himself, and they started operating as the Phillips Brothers in Washington and Osage Counties. In June, 1917, they organized the Phillips Petroleum Co. In the beginning the company's holdings consisted of 16 oil and gas leases with a total net production of 650 bbls. a day. In the next decade the company had extended its producing operations to most of the important fields in Oklahoma, and was prominent among producers in Kansas, North and Central Texas, the Texas Panhandle, South Arkansas, North Louisiana and Kentucky, and had built up its production of 650 bbls. a day to over 80,000 bbls. a day and its few undeveloped leases in northern Oklahoma were built up to over 600,000 acres in all the states above mentioned. It has steadily grown in importance with the passing of the years.

Waite Phillips, the youngest of the three brothers, came to Oklahoma some years after his eldest brother made his first visit into the State. He was a hustling, independent young man who decided at first to confine his operations to the retail marketing of petroleum products. He owned and operated a string of filling stations successfully, but decided to sell these and go into the producing end of the business. When the Youngstown Pool in Township 14-11, Okmulgee County, Oklahoma was opened in 1918. Waite Phillips went into that area and bought leases right and left. The Youngstown Pool did not extend very far and was rather short lived. Its production came from what was locally known as the Youngstown sand. Phillips, like all the others, drilled for Youngstown sand and got nothing. He decided to make a test of the lower levels and discovered Wilcox sand with rich production. It was said of him that at one time he had a production of 14,000 bbls. per day in that county which brought him $4 per barrel, the regular $3.50 posted price plus a 50-cent premium. Waite Phillips became active in many areas and when he organized the Waite Phillips Co. he made it one of the important oil corporations in the Mid-Continent Field. In 1926 he sold his company to Blair & Co. of New York, which banking organization also acquired the Barnsdall Oil Co. and consolidated the two companies into the Barnsdall Oil Corp. Phillips is said to have received $22,000,000 for his holdings. Shortly afterwards he organized the Philmack Oil Co. and later acquired large holdings in the Independent Oil & Gas Co., a thriving concern which had been organized by E. H. Moore of Okmulgee in the boom days of the big Okmulgee Field. Mr. Phillips obtained control of the Independent Oil & Gas Co., merged the Philmack company with it, and greatly extended its producing, refining and marketing facilities.

The three Phillips brothers are regarded as among the smartest oil men in the industry. They have extensive banking facilities in New York, Kansas City, Tulsa and Bartlesville.

The combination of Phillips and Independent forms a powerful organization in the hands of men of known ability and long experience.

Merger is Ratified

On Tuesday, September 2, the news of the ratification of the merger was made public in the following official statement issued by the Phillips Petroleum Co.:

"Frank Phillips, president of the Phillips Petroleum Co., announces that directors of the Independent Oil & Gas Co. and directors of the Phillips Petroleum Co., at their meetings today, unanimously approved the action of their respective executive committees for a merger of the two companies on the basis of 76 shares of Phillips stock for 100 shares of Independent stock, representing the approximate book values of the two companies.

"The Independent Oil & Gas Co. directors also declared an adjustment dividend of 37½ cents per share, payable October 2, 1930, to stockholders of record September 15, 1930, which is approximately the same date as the Phillips Petroleum Co.'s dividend declaration recently made. In view of the consolidation the Independent directors declared and will pay this dividend one month in advance of their usual time."

CANDIDATE WELL KNOWN IN THE OIL BUSINESS

(Continued from Page 76)

Ross Sterling was married to Miss Maude Abbie Gage of Hamilton, Ill. At the time of his marriage, although he had met some success in various lines of work, he found himself with only $65 in cash, so when he went with his young wife to Humble to open a store and bank he had a struggle to make both ends meet.

Later, while connected with the Humble company, Mr. Sterling took a venture into the railroad business and was instrumental in constructing the Dayton & Goose Creek Railroad, 23 miles long. The road was built primarily to provide railroad connections for Baytown, the location of the Humble refinery. The line was built with ties cut from neighboring woods, workers were recruited from the vicinity and rails were purchased second hand. After successful operation the road was sold to the Southern Pacific.

Numerous Interests

Mr. Sterling retired from the oil industry in 1925 and since then has been engaged in numerous other endeavors, and during the present Texas administration has been state highway commissioner. Mr. Sterling always has been associated closely with civic and public work, and has worked to better not only his own community but the State as a whole. Since the early days he has been a member of the Houston Port Commission and other such organizations. He is a member of the board of trustees of the Hermann Hospital Estate at Houston, giving regularly and freely of his time and efforts in the administration of the $1,500,000 charity hospital. He has made numerous donations to churches, lodges, libraries and other civic interests, and one of his chief interests is Camp Ross Sterling, a summer camp he has provided for boys. He is a director of the Houston Y.M.C.A. and at one time was president.

Mr. Sterling's various business pursuits in addition to those mentioned include real estate, cattle raising and newspaper publishing. In the publishing business he owns the Houston Post-Dispatch, a paper he and associates founded through the purchase of two former newspapers. In real estate, Mr. Sterling has built several large buildings in Houston and has numerous other investments. He owns a large ranch in southwest Texas and is prominent among cattle raisers.

Frank Phillips, standing, and Lee E. Phillips, sitting, taken at their first oil well in the Osage Nation, Indian Territory, now Oklahoma, in September, 1905. The baby is Phillip Phillips, L. E. Phillips' son. The derrick which does not appear in the reproduction of the original photograph, stood to the right of the settling tank shown in the picture.

COASTAL MARKET GASOLINE WEAKENING

HOUSTON, Tex., Sept. 2.—A slight weakening in gasolines was the only important change in the Gulf Coast refinery market the past week. Domestic motor fuel, which previously had been held at a minimum of 7 cents locally, was being offered Tuesday at concessions of an eighth to a quarter cent from some sources. This price cutting apparently followed reports of a weaker North Texas market, on which a large number of Gulf Coast contracts are based. As sellers have been considered in good shape as to stocks and minimum production, the weakness, it is thought, will be of short duration.

Fuel oils continued to move inactively but with no outward indication of further decline in price with 75 cents bottom for cargo lots. Lubricating stocks also were steady in price, but with demand only routine.

A little small lot business of gas oil was reported during the week at a figure slightly under 4 cents but for the most part the situation was unchanged with prevailing quotations between 3¾ to 4 cents and little spot business.

WILL OF T. B. SLICK

CLARION, Pa., Aug. 30.—The will of the late Thomas B. Slick, filed here this week, left his entire estate to his widow and three children. Mrs. Slick, C. F. Urschel of Oklahoma City, Okla., and Arthur A. Seeligson of San Antonio, Tex., were named as trustees to carry out the will of the testator. The men named are brothers-in-law of the deceased. It was the wish of Mr. Slick that the oil property be preserved and developed. The will was made while Mr. Slick lay ill in Johns Hopkins Hospital in Baltimore, where he died.

ing the !

THE Powell new "Master Pilot" Gate Valve was designed to meet a specific need in the oil industry for a medium pressure, moderately priced gate valve in small sizes.

Made in sizes ¼" to 3" with screwed ends, and in sizes 1" to 3" with flanged ends, the substantial design of the new "Master Pilot" Gate Valve affords ruggedness for rough handling. Careful workmanship and high grade materials insure long, trouble-free service.

For details of construction, see the Powell new "Master Pilot" Bulletin.

THE WM. POWELL CO.
2521-31 Spring Grove Avenue
Cincinnati, Ohio

Powell Valves are carried in stock and distributed by Powell jobbers in all oil sections.

VALVES

Send me a copy of the new "Master Pilot" Bulletin.

S

Name _____

_____

Company _____

_____

Address _____

_____

Central Ohio Shows Continued Activity

Indiana, Illinois and Lima Field Report Few Scattered Wells Completed. Wildcat in Illinois Near St. Louis Makes 12 Bbls.

By Whit

Staff Correspondent, Central West Fields

FINDLAY, Ohio, Aug. 31.—The most active area of the Central West Field is the central Ohio division which is being developed to a large extent for gas, although numerous tests are being made for oil. Indiana, Illinois and the Lima Field show little activity, there being but a few scattered wells brought in.

The best completion in the old Lima Field of northwestern Ohio was found northeast of Lima by B. L. Carmon and others in No. 4 on the W. A. Carroll farm, Section 13, Bath Township, Allen County, with an initial production of 25 bbls. Ira A. Post and others' No. 3 on the J. T. Driver farm, Section 7, Jackson Township, was abandoned as was Joseph D. Marks' No. 1 on the J. B. Jackson & Sons farm, Section 30, Ottawa Township, same county.

In Mercer County, Union Township, Margaret E. Grace and others' test, 600 feet from the south line and 300 feet from the east line of the Gusy Clay farm, SW, Section 16, pumped 2 bbls. the first 24 hours. Trenton was topped in this well at 1,138 feet and oil found at 46 feet in the sand. C. Tester and others are drilling a second test on the Gus Kohler farm, Section 36, Moulton Township, Auglaize County, southwest of Lima.

Robert Mitchell, trustee, is drilling No. 3 on the R. W. Moore farm, Section 21, Biglick Township, Hancock County. The Ohio Oil Co. abandoned No. 4 G. A. Mitchell farm, Section 34, Portage Township, same county.

In Wood County, Montgomery Township, Kniseley & Bonawit abandoned Nos. 1, 2, 3, 4, 5 and 7 Pearl A. Stahl farm, Section 23. Agnetta Chidester, Baldwin and others are drilling No. 10 W. P. Noble farm, Section 3, Henry Township.

Tiffin Field

In the Tiffin Field of Seneca County, J. S. Barrett is drilling on the T. H. Einsel farm, Section 1, Hopewell Township. W. E. Wilson, trustee, is drilling on the H. L. Hiles farm, Section 33, Clinton Township. The Kansas-Ohio Oil & Gas Co. is drilling No. 3 on the R. E. Harrison farm, known on the old oil map as the T. Farrell farm, Section 1, Jackson Township. No. 2 well recently completed on this farm, pumped 40 bbls. initial.

The Eilerman Oil Co.'s test on the J. Gustache farm, Section 23, Cynthian Township, Shelby County, came in a dry hole. A test is being drilled by O'Neil Brothers on the J. N. Perin farm, Section 34, same township.

The Peninsula Oil Co. is drilling on the J. P. Caugney property, in Lot 3 on Catawaba Island, in Ottawa County.

Reports from Sandusky say that unknown parties' test on the W. S. Taylor farm, about 5 miles south of that city, in Erie County, had found a light showing of oil, but will be drilled deeper.

In the Kenton Field, in Pleasants Township, Hardin County, the Traeger Oil Co.'s No. 1 on the August and Anna Traeger farm, Section 7, is good for 5 bbls. Neely & Underwood are drilling on the Phoebe L. Gardner farm, Section 31, Blanchard Township, same county. Eagon & White are drilling No. 1 Adam Strang farm, Section 14, Cessna Township, same county.

The test of J. H. Williams on the Catherine Wathers farm, Liberty Township, Crawford County, has been shut down for a long period at a depth of 2,580 feet, and is practically a dry hole.

CENTRAL OHIO

Twenty completions were reported from the Central Ohio Field, of which 5 were producers with an initial production of 150 bbls.; 7 dry holes and 8 gas wells, and new locations were made for 16 wells, and 36 started the drills in operation, a total in new work of 52. This showing in new work is due to slight rains that helped operations along after a continuous dry spell.

In Ashland County, the Kemrow Co.'s test on the J. N. Smetzer farm, Section 34, Clear Creek Township, proved a duster at a total depth of 2,622 feet, no sand being found. Robinson and others' No. 6 Emma A. Devinney farm, Section 9, Lake Township, also failed to find the shallow pay sand and was given up as dry at 642 feet. Same parties are drilling No. 3 C. I. Sellers, Section 9, same township. In Mohican Township, Blair and others are drilling No. 1 Henry Smith, Section 32, and Meltzer and others are drilling No. 4 George W. Black, Section 33.

In Medina County, Harrisville Township, Meyers Brothers Co. is drilling No. 8 G. P. Mong, Lot 56, and in Westfield Township, Cameron and others are starting No. 1 E. and M. Cox, Lot 55. Barnhart and others made a location for a test on the George Coleman, Section 8, Medina Township.

In Lorain County, Ridgeville Township, L. T. McGrath got a fair gas well on the Margaret Mohr, Lot 41, from 2,375-95 feet. Ohio Fuel Gas Co. reports a dry hole in No. 1-5,224 P. H. Campbell farm, Section 21, Carlisle ownship. Elyria Steel Corp. is drilling No. 1 Albert M. Hanndford, Section 19, same township. A. F. Keck and others are starting No. 1 John B. Wensink, Section 9, and J. W. Cushing is starting No. 1 Catherine Kolb, Section 14.

Wayne County

In Wayne County, the Ohio Fuel Gas Co.'s No. 1-5,205 James McCauslin farm, Section 19, Chester ownship, is a light gas well. Faulkner and others have one of the same kind in No. 3 on the Ashley Smyser farm, Section 25, and Hulse & Kundtz are drilling on the Peter C. Firestone farm, Section 18, same township.

In Knox County Bell Brothers are drilling on the Joseph Colopy farm, Section 23, Union Township.

In Summitt County, Franklin Township, Kime and others have a fair gas well in No. 3 on the C. L. Wilcox, Section 26, from 4,057-85 feet. Wilcox & Kime are drilling No. 1 F. McKnight, Section 35, and Brebdall and others are drilling on the Uriah J. Caston, Section 25, same township.

In Licking County, Fallsburg Township, Murphy and others' No. 1 Eli Clark, Section 13, reported good for 120 bbls. initial from 2,979-3,032 feet. McClay Brothers are drilling No. 2 U. G. Porter, same section. I. C. Robinson is drilling No. 6 Sam Mossholder, Section 14, and Norpell and others are drilling No. 2 W. G. Booth, Section 13, same township. Vaugh & Southern's No. 8 Dora Dustheimer, Section 6, Franklin Township, is estimated at 2 bbls. at 760 feet. Pure Oil Co. is drilling No. 7 Homer C. Priest, Section 7, Hanover Township.

In Muskingum County, Harrison Township, Donehoe and others are drilling a second test on the A. P. and J. W. Rusk, Section 17. In Perry Township the Ohio Fuel Gas Co.'s No. 2-5,097 Edward P. Allen, in the third quarter section, is reported good for 5 bbls. of oil and a fair volume of gas in the Clinton lime at a total depth of 4,153 feet. Same company brought in a gas well in No. 1-5,116 A. G. Patterson farm, Section 14, and Longfellow and others have a light gas well on the L. B. Jackson, Section 12, same township, at 4,136 feet. Sagle and others are drilling No. 5 Mary Dunn, Section 9, Brush Creek Township, and made a location for No. 1 on the Orin Perdew, Section 4, same township.

Athens County

In Athens County Bowser & Gunther's No. 3 Fred R. Cooley, Section 26, Alexander Township, is rated a duster. Orange Gas Co.'s No. 1 Emery L. Chapman, Section 19, Carthage Township, is full of water and reported no good. No. 3 well on the Clester, in Ames Township, is a gas well. Ohio Fuel Gas Co.'s No. 1-4,470 on the Isaac Hudnell farm, Section 2, in Waterloo Township, is reported dry around 1,260 feet. Kachelmacher Estate is drilling on the Charles Wilson, Section 4, Trimble Township, same county. Noah Andrews and others are drilling on the Frank Patton, Section 23, York Township, and Whitmer and others are drilling on the Baird Brothers Co., same section.

In Tuscarawas County, Oxford Township, the Hopewell Oil & Gas Co.'s No. 1 G. H. Smetts farm, Section 20, is a gas well at a depth of 3,683 feet. Wehrle Co. is starting a test on the C. C. Rector, Section 17, same township.

In Stark County, Lawrence Township, the Penn Oil & Gas Co.'s No. 1 William Swigart farm, Section 2, is a gas well from 3,974-92 feet, and the same company has a dry hole on the C. S. Smith, same section, from 3,949-76 feet. Same company is drilling a second test on the William Swigart, same township. F. A. Brendall and others drilled a dry hole on the Emma Donot farm, Section 28, Lake Township, same county.

In Guernsey County, Wheeling Township, Ohio Fuel Gas Co.'s No. 2-1,417 Amanda E. Robinson, Sections 11-12, is reported at 20 bbls. initial at 3,406 feet, and No. 3-1,423, same farm, drilling and a location made for No. 4, same farm. Ohio Producing & Refining Co. is drilling No. 3 Oscar Quillan, Section 2, same township.

In Belmont County, Somerset Township, Shay McMullen's test on the John H. Stephen farm, Section 20, is reported showing for 3 bbls. from the Berea sand at 1,970 feet.

In Morgan County, Penn Township, the Penn-Ohio Gas Co. has a gas well on the Reed farm, Section 16, at 1,662 feet.

INDIANA

One of the interesting tests in Indiana is a wildcat being drilled by Ellis and Thomas, operators from Kentucky, on the Alva or Luther Martz farm, Section 32, Curry Township, Sullivan County, east of the old producing area in Fairbanks Township, same county, and also a little southwest of the Siosi Pool, north of Sullivan, the county seat and about 18 miles south of Terre Haute. It is one of three deep tests to be drilled on a block of acreage about 10 miles square and not far from the hamlet of Farmersburg. The Martz test at last report had found the Niagara formation at a depth of 2,280 feet and was 80 feet in that formation at a total depth of 2,360 feet and still going ahead. The well is said to be making a nice showing and the indication is for the opening of another deep sand pool in Sullivan County which has for years been a shallow field of exceptionally good production. The oil is of excellent quality and said

(Continued on Page 182)

OPERATORS IN TENNESSEE FIELDS BUSY ON DEVELOPMENT PLANS

By Whit

RED BOILING SPRINGS, Tenn., Aug. 31.—Kennedy & Son have taken over the Tinsley Bottom leases on Cumberland River, 10 miles south of Celina, in Clay County, and have cleaned out and deepened two wells on the Ham Linn. After 10 days' pumping these two wells show an average of 37 bbls. total, with considerable gas pressure. The Kennedys will give the 21 wells a thorough overhauling. This pool created quite a sensation five years ago when No. 1 Linn flowed about 1,500 bbls. before it could be put under control and a number of others did almost as much. The property was owned by nonresidents who were not experienced in the oil business. The Tinsley Bottom Pool is 5 miles from the production of Blick & Son on Long Branch where about 250 bbls. of high grade oil is in storage awaiting a market.

T. J. Newell and others are drilling at around 560 feet on their No. 2 Oakley about 8 miles north of White Bluff, near Harpeth River, in Dickson County. This well missed the gas at 215 feet that was found in No. 1, same farm. Wood & Kenyon are drilling at 450 feet in No. 1 Hunter about a mile north of the Oakley farm.

It is reported that Ellis & Young of Owensboro, Ky., are shipping in a rig to the J. H. Unseld farm, 4 miles northwest of Ashland City, between Ashland City and Chapmansboro, on the north side of the Cumberland River, in Cheatham County, and northwest of Nashville, where they have secured 25,000 acres under lease.

In Overton County the Cumberland Oil Corp., of New York, got what shows for a nice oil well at about 805 feet in No. 2 Martin Garrett farm, northwest of Livingston, near the Mitchell Creek production of Pratt and others at Fox Springs. The Cumberland Oil Corp. has contracted for five more wells. The deep test of New York bankers on the Briar Hill Collieries Co., near Wilder, north of Livingston is drilling at 1,200 feet, nothing interesting so far. The same firm is drilling a deep test near Sparta and another near McMinnville and has let contracts for five more wells. Stuart St. Clair, geologist, New York, has charge of the tests.

In the southern part of the State, J. Young is drilling two wells on a gas structure in Lincoln County, 12 miles east of Fayettsville where he has already four wells with an open flow of 6,000,000 feet at very shallow depth.

J. V. McGuire is drilling at 780 feet No. 1 Sutton at Beechgrove, 12 miles northwest of Manchester, in Coffee County; he found a good flow of gas at 565 feet.

J. H. McClurkin has spudded in on No. 1 J. L. Woods farm on Little Trace Creek, 3 miles southeast of Spivey in Clay County, and will drill two more wells on nearby structures he worked out four years ago while hunting for oil. He will go through the St. Peter sandstone in each test; this formation is in this vicinity about 1,200 feet below the Chattanooga shale.

Barney Calvert, of Owensboro, Ky., will ship a rig to Lafayette, in Macon County, where he will drill a number of wells for the Armistead Oil Co. which controls a large block of leases around Red Boiling Springs and Spivey.

Fair Well in Southeastern Ohio Area

Several Small Completions in Shallow Sand Territory. Gas Districts of West Virginia Have Been Hampered by Lack of Water

By Special Correspondent

PITTSBURGH, Pa., Sept. 1.—The recent curtailment program in the eastern fields will remain unchanged for the present and the price increase is attributed to the more stable market effected by it. However, this increase will not act as any incentive to drill as long as curtailment is necessary as it has been pointed out that it will take another like increase to offset the 30 per cent decreased output. Except in the gas areas in West Virginia drilling is very much at a standstill, and that is still hampered by lack of water.

SOUTHEAST OHIO

In southeast Ohio there were fewer wells completed during the week and but one of them was fair in the deep sand district. In the shallow sand territory, there were several small though fair completions. The best well for the week was in Section 13, Fallsbury Township, Licking County, where McClay Brothers and others completed their test on the U. G. Porter farm. It was drilled to the Clinton sand at 2,998 feet and after shot produced 95 bbls. the first 24 hours.

In Ashland County, the Great Lakes Oil Co. completed No. 6 on the Emma Deviney heirs farm, Section 9, Lake Township, to the Berea at 622 feet and it is dry.

There was one completion in Holmes County but it was unsuccessful. The Ohio Fuel Gas Co. drilled its test on the Phoebe Bucy farm, Section 6, Richland Township, to the Clinton sand at 3,385 feet and found it dry through all formations. In Hocking County, the Preston Oil Co. drilled No. 1,420, Sunday Creek Coal Co. tract, to the Clinton sand at 3,460 feet and, after shot, it produced 20 bbls. the first day.

There were three fair shallow sand completions in Medina County. The Oko Oil & Gas Co. completed No. 39 on the Henry Essig farm, Lot 2, Section 13, Chatham Township, to the Cow Run sand at 380 feet, and after shot, it made 15 bbls. the first day. In the same township, Lot 6, Section 16, same company completed No. 27 on the T. W. Brinker farm at 326 feet and it produced 10 bbls. the first 24 hours after shot. In Lot 3, Section 18, of this township, J. R. Kommer completed No. 5 on the J. A. Kruggle farm at 565 feet and it made 5 bbls. the first day after shot.

Muskingum County had three new completions. The Hopewell Fuel & Gas Co. completed No. 4 on the James M. and Ezra H. Sidle farm, NE Section 5, Hopewell Township. It was drilled to the Clinton sand at 3,330 feet and produced 25 bbls. the first day after shot. In the SW Section 15, Perry Township, the Ohio Fuel Gas Co. drilled No. 2 on the Edward Allen farm to the Clinton sand at 4,074 feet and after shot it made 15 bbls. the first 24 hours. It was later drilled deeper to the Red Rock at 4,152 feet and it will probably settle down to a 3-bbl. producer. In Section 17, Harrison Township, P. E. Donahue completed his test on the J. W. Rusk farm. This well was drilled in several years ago but never put to pumping. It was recently shot in the Berea grit 1,165 feet and made 5 bbls. the first day, and it will be operated.

In Noble County, H. H. Mosley and others drilled a test on the Manley Mitchel farm, the southern half of Section 7, Jackson Township. It was drilled to the Berea sand at 1,654 feet and the sand was found badly broken with no showing of oil or gas. The Ohio Fuel Gas Co. had a similar result in No. 4 on the John Larzelere farm, SW Section 5, Harrison Township. It was drilled to the Clinton sand 3,560 feet and no showing found.

In spite of the overproduction and the partial curtailment in southeast Ohio, the drilling programs are being completed. A review of different counties shows the following work. In Athens County, Section 24, York Township, the Ohio Fuel Gas Co. has a rig up for No. 1 on the Sunday Creek Coal Co. tract. In Section 23 of this township, Noah Andrews and others are drilling at 1,100 feet their test on the Frank Patton farm, and in the same section the Wittmer Oil & Gas Co. has reached the same depth in its test on the Baird Brothers property. In Athens County, the Ohio Fuel Gas Co. has reached 950 feet in its test on the W. E. Day farm, Section 19, Carthage Township.

In Coshocton County, the Preston Oil Co. has reached 550 feet in its test on the F. H. Donaker farm, Section 16, Perry Township. In Pike Township, Perry Ashcraft farm, Section 15, McClay Brothers and others are drilling at 2,550 feet.

In Guernsey County, Wheeling Township, considerable drilling is being done in the pool opened earlier in the year. William Loring and others have reached 3,480 ft. and are approaching the sands in their test on the Lanning heirs farm, Section 13. The Ohio Fuel Gas Co. is spudding and starting drilling on its No. 3 C. C. Wilson farm, Section 11, and has started to drill No. 3 on the A. E. Robinson farm. On the J. C. Allaway farm, Section 10, the same company has reached 3,460 feet and will soon reach the sand. The Ohio Producing & Refining Co. has a location ready for its second test on the E. C. and Vera A. Quillan farm, Section 11. The same company has a rig up for No. 2 on the C. A. and Mary J. Quillan farm in Section 1. In Section 19, James Sager and others are spudding in their second test on the James Sager farm. In Section 10 the Kemrow Co. has a rig up for No. 3 on the J. W. Fowler farm. In the same county, but in Westland Township, Ernest Walters and others have a rig up for a test on the William Messer heirs farm, Section 20. In Section 7, Cambridge Township, the Preston Oil Co. is drilling its test on the Mahala Johnson farm.

In Jefferson County there are several tests being drilled. In Section 17, Island Creek Township, Owen & Graham have reached 1,000 feet on the James A. Blackburn farm. In the same section, C. M. Stratton is drilling a test on his own farm. Elliot & Co. have spudded in and reached 300 feet in a test on the W. Swartz farm, Section 28, Island Creek Township. W. Graham & Co. are down to 500 feet on the O. Dennis farm, Section 22. Lee & Co. have spudded in and started to drill their test on the J. D. Sinclair farm, Section 32. In Know Township, Sapp Brothers are drilling on the H. L. Sweckard farm and are shut down for water.

In Licking County, in the continuation of the pool in Hopewell Township, the Preston Oil Co. has rig up on the Margaret Robinson farm, Lot 9. In Lot 32, on the O. H. Hartman farm, the Wehrle Co. has reached 1,759 feet in its second test of that farm. In Fallsbury Township, Section 13, Ridgeway and others have reached 2,258 feet on the Walter E. McDonald farm. The Preston Oil Co. is down to 2,425 feet on the Howard Ashcraft farm, Section 11. In Section 5 of this township, J. C. Robinson and others are down to 1,000 feet on the W. H. Kidd farm. Beabout and others have the timbers ready for a rig on the Amos Van Winkle farm in Section 13, which will be a test of that farm.

In Muskingum County the Northern Development Co. and others have reached 3,300 feet on the William H. Combs farm, Section 32, Newton Township. Walsmith & Webb are down to 2,000 feet on the Bruce Baughman farm, Clay Township, Section 3. In the same section, William Cline and others have a rig standing on the Howard H. Doyle farm. The Ohio Fuel Gas Co. has a rig up for a second test on the B. P. Stokely farm in Newton Township and Section 34. Its No. 1 on this farm was a gasser good for 700,000 feet. In Perry Township, Section 16, the Preston Oil Co. has a rig up on the John C. Hicks farm. In Washington Township, Wilson Brothers have a rig standing on their own property.

In Perry County the Wehrle Co. is shut down at 700 feet waiting on water on the Frank Hammond farm in Section 21, Clayton Township. In the same township the Gas Producing Co. of Ohio has spudded in on the David Hammer farm. In Reading Township, Section 18, the Preston Oil Co. has reached 1,800 feet on the William and C. W. Larne farm.

In Tuscarawas County the Ohio Producing & Refining Co. has rigged up on the James Gadd farm in Section 5, Monroe Township. In Washington Township, Section 18, the same company has reached 1,000 feet in their second test on the Stewart Asher farm.

In Washington County, Brookheart and others are drilling on the Ed Hickman farm, Section 5, Palmer Township. In Independence Township, Herlan Schram and others have spudded in their No. 14 on the Ephraim Cummons farm, Section 33. There are several wells in this county shut down for lack of water.

WEST VIRGINIA

The best oil well reported completed during the past week in West Virginia was Reedy district, Wirt County, where the Virginia Gasoline & Oil Co. drilled its test on the Phoebe Woodyard farm to the Berea at 2,662 feet and it is estimated it will start off at 30 bbls. a day. In Proctor district, Wetzel County, Wade & Carney and others completed a test on the G. M. Lemasters farm. It was drilled to the Gordon Stray sand at 3,285 feet and a showing of gas was found at 3,247-62 feet and deeper the well filled up

(Continued on Page 180)

LACK OF WATER IN KENTUCKY CAUSES SUSPENSION OF WORK

By Whit

OWENSBORO, Ky., Sept. 1.—Conditions have not improved much so far as water for drilling purposes is concerned in Kentucky. It will be necessary for several inches of rain to fall before the 75 or more rigs that are idle can start up again. At least 50 of these idle machines could start up on offset wells and cleaning out, if there were water for the boilers. The shut down is halting operations to some extent, but not as much so as the drouth. The shut down is supposed to end September 1.

Gets Big Producer

The outstanding feature of the Owensboro Field was the bringing in of a 350-bbl. shallow producer by James C. Ellis in his No. 6 on the Cordia Hoover farm, in the Taffey area of Ohio County. James Ellis and others' No. 5 on the Crow Connor farm, in the Coleman Pool of Ohio County, is a fairly good gas producer, while No. 6, same farm, is reported dry. Same company's No. 1 Bellamy farm, in the Magan Station area of this county, was also a duster.

Penn-Indiana Oil Co.'s No. 20 on the C. A. Kelley 260 acres, in the Deanfield area, is reported good for 5 bbls. S. R. Nigh and others' No. 15 on the A. P. Kelley 340 acres, produced an initial of 19 bbls.

Eastern Gulf Oil Co.'s test on the W. I. Wimsatt farm, in the Taffey area, is reported at 26 bbls. initial, the oil being found from 495-513 feet in the Stray sand. A string of 438 feet of casing was set in this hole. Bigler & Beckers' test on the Sharp and Johnson farm, also in the Taffey area, was a dry hole at a total depth of 724 feet. Three "C's" Oil & Gas Co.'s No. 5, on the Hills Rhodes farm, in the Taffey area, was also a dry hole at 1,075 feet.

Scattered Completions

The Petroleum Exploration Co.'s No. 7 on the J. M. Clark farm, in the Utica Field of Daviess County, produced an initial of 8 bbls. from the Jett sand at 1,155 feet.

In McLean County, James C. Ellis found a dry hole on the George Nichols farm, about 3 miles north of Calhoun, at 1,357 feet. Mel Root and others found a dry hole on the G. W. Troutman farm, near Buell, same county, at 1,550 feet.

In Henderson County the T. J & L. Oil & Gas Co. struck a 5-bbl. pumper in a second test on the J. E. Farley 63 acres in the Niagara Pool. The Clark-Hill Drilling Co.'s No. 2 on the Walter Baskett farm, same pool, is a gas well with a volume of 300,000 feet.

Field Pickups

The Evansville Syndicate hit a duster on the A. Sights property, in the Niagara Pool of Henderson County. Niagara Oil & Gas Co. is drilling No. 1 Willie Shelleman, also in the Niagara Pool, and Ellis & Young are drilling No. 1 F. Priest, same pool.

Three wildcat ventures are being made in Union County to the west of Henderson and Webster Counties. It was in Union County some years ago that oil was found in what is called the McCloskey sand, but in small quantity. This is the Morgantown Field, and the three tests are being made by the Wood Oil Co. on the Walter Young farm; George E. Shoup on the Greenwell Brothers farm; and M. G. Moyer on the H. E. Proctor farm. These tests will be closely watched by the operators and are deep drilling.

Ira Huff is drilling on the Rogers farm, 1½ miles northwest of Philpot, in Daviess County.

A report is current that a heavy gas well has been found on the McGovern farm, in Hancock County, where a well reported as an excellent oil producer was brought in recently by Lowman, Daley and others. In Hancock County D. T. Bolling is due in with No. 1 on the J. F. Crow No. 2 farm, as well as No. 1 on the Lewis Richards farm.

In the Deanfield area of Ohio County the Wood Oil Co.'s No. 9 on the Nannie Rogers farm, is a 10-bbl. initial pumper. Mecca Oil Co.'s test on the Estill Miller farm, same area, is reported with a gas well showing 1,000,000 feet. James C. Ellis and others have a dry hole in No. 3 Frank McKinley farm, in the Aetnaville Pool.

In Daviess County, the Leeper Oil Co.'s No. 7 well, 600 feet from the north line and 1,000 feet from the west line of the C. D. Veach 209 acres, pumped 10 bbls. initial.

In Hancock County, Cox, Ewell and others' test on the William Burke farm, produced 150,000 feet of gas. This well is 200 feet from the south line and 1,200 feet from the west line of the lease.

Natural Gas Industry Developments

VALUATION BY STATE PROTESTED BY LOGAN

COLUMBUS, Ohio, Aug. 30.—The Logan Gas Co. has asked the State Public Utilities Commission to vacate and set aside its recent order fixing the valuation of the company's property for rate-making purposes, citing 30 alleged errors in the commission's deductions and contending particularly that the commission had not carried out the mandate of the Supreme Court of Ohio that a true value be fixed for the company's Class No. 1 leaseholds.

The commission recently fixed the value of the company's property for rate-making purposes at $11,688,010, as compared with the company's claimed valuation of $22,227,208.

The rates which the company increased six years ago and has been collecting under bond, apply to 30 Ohio communities.

The valuation recently fixed by the commission on the Class No. 1 leaseholds was $850,000, whereas the company contends the value of that class of leaseholds is $1,873,408.

"The commission erred in holding it is not empowered to fix the value of gas lands and leaseholds by ascertaining the value of property in the open market between willing buyer and willing seller," the petition said.

After citing more than a score of other alleged errors, the company asked that the commission reconsider and fix the true value of the lands and leaseholds as ordered in the supreme court mandate; that it fix and determine the true value of the leaseholds in Classes Nos. 2, 3, and 4, which already have been upheld by the supreme court; that it fix and determine the company's going concern value and include the value of this property in its valuation; and to find and allow for the cost of financing and general overhead the amounts shown by the evidence to be necessary and proper.

WAYNE DRILLING NEW WELLS

Announcement is made by officials of Wayne United Gas Co., subsidiary of Appalachian Gas Corp., that the drilling of four new natural gas wells in the Wilsondale, W. Va., field will commence immediately, to take care of anticipated increased industrial demand. The work is to be completed by October 1.

The new wells will be connected to the company's general gathering lines system and their production of natural gas will be sold under existing contracts to the Owens-Illinois and Libby-Owens-Ford Glass Cos.' plants in Kanawha City, W. Va. Present deliveries by Wayne United Gas Co. to these plants amount to over 5,000,000 feet daily.

This new addition to the group of wells owned or controlled by Wayne United Gas Co. is part of the company's scheduled program of development now progressing. Present estimated gas reserves of the company are 33,000,000,000 cubic feet, while gas rights are owned or controlled in approximately 43,000 acres in West Virginia, Ohio, and Kentucky.

MONTANA RATE TEST

CASPER, Wyo., Aug. 30.—The State Railroad and Public Service Commission of Montana will meet September 4, at Glasgow, to hold a hearing on the rates of natural gas as furnished several towns in that part of Montana by the Bowdoin Utilities Co. The company recently gave notice of an advance in rates and the citizens of the towns being served appealed to the commission. Gas had been delivered to consumers at 15 cents per thousand and the new rate is at 75 cents per thousand.

CISCO EXPECTS ONE OF THE LARGEST GAS PRODUCING AREAS IN TEXAS

By L. E. Bredberg

FORT WORTH, Tex., Aug. 30.—While several counties in the Panhandle of Texas have a vast potential supply of natural gas from which several large gas lines will be supplied in the next few months, the Ranger district must not be overlooked as another present and potential supply of the same commodity, for the Lone Star Gas Co. is taking many millions of feet of gas daily from this district now, and is running more gathering and trunk lines all the time to handle the supply and fulfill the demand for gas from this district, which is piped as far as Fort Worth and Waco and Temple, Tex.

One of the most interesting and active areas of this district, at the present time, lies about 4 miles north of Cisco in Eastland County, and it is estimated that 25 square miles will be developed for gas in this area, developing into one of the largest gas producing areas in Texas, the existing wells having an estimated 300,000,000 feet potential capacity per day.

Frank Kendricks, chief geologist of the Lone Star Gas Co., Dallas, and P. G. Russell, of Eastland, in charge of the geological department of the Ranger district for the Lone Star Gas Co., mapped the structure underlying this area, and their company has practically all of the land under lease. The Phillips Petroleum Co. has a few leases in the area.

At present there are two separate and distinct fields, the Groves Field, which is the largest, is about 4 miles north of Cisco, and the Dyer Field is a little farther to the northwest. They will no doubt be connected when producers are drilled on the intervening acreage, and one large field formed by the two. The gas is being produced from the Eastland Lake sand which is below the Caddo lime in the Bend formation of the lower Pennsylvanian, and exceptionally large gas wells are coming in.

An extensive drilling campaign is in progress and more lines are being laid to and within the area to handle the gas production from the wells which are being completed each week. A 16-mile 12-inch line is the latest large gathering line to be laid to the field. It is now under construction.

Drilling in this area was started several years ago, but nothing came of it except dry holes nearby, but April 29, 1929, drilling was commenced by J. L. Sarver, Breckenridge contractor, on the O. P. Storm farm in Section 470. This well was completed for approximately 6,000,000 feet of gas at a total depth of 3,588 feet opening the gas field.

Many of the wells drilled in the field have had both gas and oil production, producing from 20 bbls. to as high as 3,000 bbls. of 45 gravity oil per day. This latter amount was made by the Lone Star Gas Co.'s No. 3 Brooks, which was completed February 19, 1930. It also made 5,000,000 feet of gas.

Lone Star Gas Co.'s No. 1 Groves in Section 483, the first well in the Groves Field proper, made an initial flow of 2,000,000 feet of gas with 75 bbls. of oil, the gas coming from 3,512-26 feet, and the oil from 3,823-48 feet.

The largest gasser in the Groves Field was the last one to be completed last week for an initial production of 62,500,000 feet of gas at 3,568-75 feet. This well was the Lone Star Gas Co.'s No. 7 Groves in Section 487. The week before this was completed the same company completed its No. 6 Groves in the same section for 35,000,000 feet of gas at 3,560-72 feet.

While these gas areas have been and are exceedingly interesting, the immediate area around Cisco is also interesting in view of the fact that J. A. Bearman, Luther McCrean and the Humble Oil & Refining Co. brought in their No. 1 Kincaid, over a year ago, just outside of the northern limits of the city of Cisco in the H.&T.C. Survey. This well is now making 75 bbls. of oil per day at 3,468-75 feet from the Lake sand. Lone Star Gas Co.'s No. 1 C. H. Fee, offsetting the Kincaid to the east, is located in the C NW NE, Section 80. It is producing around 60 bbls. of oil per day from 3,470-3,505 feet.

On the east edge of Cisco Pete Hoffman has a gas well located in the SW Section 80, Block 4, H.&T.C. Survey. It is making 2,000,000 feet of gas per day from 3,445-50 feet. And directly north of the town C. M. Root and others have recently completed a small oil well in the Lake sand, making around 35 bbls. per day. It is located in the C SE NE, Section 508, S.P.R.R. Survey.

Perhaps the most interesting test in this area is Pete Hoffman's No. 1 W. M. Hoyt in the S half, Section 84, Block 4, H.&T.C. Survey. This derrick sits at the west end of the main street of Cisco, and people living in the Laguna Hotel can sit in their rooms and watch the drillers go ahead about their work on the derrick floor. The Chamber of Commerce of the town will string colored lights over the derrick to attract more attention to the test, which is liable to open up the city to town lot drilling, if it makes an oil or gas producer.

BOWLING GREEN GETS GAS

BOWLING GREEN, Ky., Aug. 30.—Natural gas has been piped into Bowling Green by the Kentucky-Tennessee Light & Power Co., and Manager Fitch has started the gas through the line to consumers. Much of the gas for Bowling Green will come from Tennessee, as Macon County has numerous gas wells and there is considerable natural gas in Barren, Metcalf, Green and other counties north and east of Bowling Green.

MICHIGAN GAS CHARTER

MOUNT PLEASANT, Mich., Aug. 30.—A co-operation franchise for the Michigan Natural Gas Co. of Mount Pleasant was granted by the secretary of state. Incorporators are M. B. Kuler, Lansing; A. E. Butterfield and V. M. McClintic, Mount Pleasant. The company will gather natural gas at the Bloomfield wells and pipe to Mount Pleasant, where it will be marketed by other companies.

GAS SALES, FIRST HALF

Mixed trends characterized the gas industry during the first six months of the year. Reports received by the statistical department of the American Gas Association from companies representing 90 per cent of the manufactured gas industry indicate an increase of 2 per cent in manufactured gas sales in the first half year compared with the corresponding period of 1929, while reports from companies representing 90 per cent of the natural gas utility industry show a decline of 4.8 per cent in natural gas sales. For the year 1929, manufactured gas sales were 8 per cent above 1928, while natural gas production showed an unusually large increase of approximately 20 per cent.

COLUMBIA ACQUIRING NEW YORK COMPANIES

HORNELL, N. Y., Aug. 30.—Petitions by the Columbia Gas & Electric Corp. for permission to acquire the outstanding capital stock of the Empire Gas & Electric Co., serving about 20 villages and towns in Allegany and Steuben Counties in New York, were unopposed when they came before the New York public service commission for a hearing.

The deal has been pending for some time and indications are now that it will be closed immediately. The Columbia will acquire a majority of the stock of both the Empire Gas & Electric Co. and the Hornell, Canteo, Allmond, Alfred, Andover, Wellsville, Richburg and about 15 other small towns and villages in this community.

Both companies are now owned almost entirely by the Bradley family of Hornell, Wellsville and Bolivar.

It is expected that the Columbia will acquire the Empire and Hornell concerns by means of a stock exchange.

NATURAL GAS DEPARTMENT

Many natural gas men are making plans for attending the American Gas Association convention in Atlantic City, October 13 to 17. The Natural Gas session will be held on Monday afternoon, October 13. Unusually interesting and valuable papers are being prepared for this session. Natural gas men will be free after Monday to attend all general sessions and to select those section sessions in which they are most interested: Technical, Accounting, Commercial, Manufacturers, Industrial Gas and Publicity and Advertising.

Natural gas men, particularly those engaged in sales activities and located in the Mid-Continent area, are planning to attend the Southwest Natural Gas Sales Conference, which will be held about the middle of November.

The report of the Natural Gas Department Committee on Gas Measurement, will go to the printer shortly and other reports will be released at the October convention and shortly thereafter.

CENTRAL INDIANA TO EXPAND

The Central Indiana Gas Co., a subsidiary of the Central Public Service Corp., will spend approximately $1,000,000 for additional gas production equipment. It will expand its service to include all the communities in its territory. In addition, arrangements are being made to supply natural gas for industrial use. The Central Indiana Gas Co. now serves 16 communities in southeastern Indiana and has obtained franchises in 12 additional communities.

MEMPHIS NATURAL GAS SALES

Memphis Natural Gas Co. reports sales of 5,054,481,700 feet of natural gas during the first seven months of this year, against 2,915,017,473 feet for the corresponding period last year, a gain of over 73 per cent. Upon completion of additions to the Guthrie compressor station and of the new Greenville-Greenwood lateral pipe line in Mississippi, further increases in sales are expected. Appalachian Gas Corp. owns 44 per cent of the common stock of Memphis Natural Gas Co.

SASKATCHEWAN GAS PROJECT

CHATHAM, Ontario, Aug. 30.—In connection with the proposed supplying of natural gas to the cities of Saskatchewan, Dominion Gas & Electric Corp., Ltd., is reported to have started extensive surveys on Saskatchewan and is planning to develop production there, in addition to gas imported from the Turner Valley Field.

RESSOR STATION USING COOPER-BESSEMER TYPE-16's

THE two Type-16 compressor units shown in the station illustrated are equipped for automatic service. There is only one operator on 24 hour a day duty. During the day he spends only two or three hours in the station. At night he goes to bed with complete confidence that his engines will stay right on the job.

Semi-automatic operation is made possible with automatic pressure switches, which protect the engine against damage in case of an accidental shortage of cooling water or lubricating oil, and a cooling water temperature switch which stops the engine in case of a rise to a harmful temperature.

IMPORTANT FEATURES OF TYPE-16

1. Easily convertible from oil to gas fuel.
2. Self-contained, compact and portable.
3. Timken main roller bearings.
4. Die-forged crank shaft.
5. 50-60 B. H. P.; four cycle; simplified design.

THE COOPER-BESSEMER CORPORATION

MOUNT VERNON, OHIO GROVE CITY, PA.

Branch offices in all principal oil and gas fields

Field Problems and Their Solution

EDITED BY THOMAS F. SMILEY

In order that men connected with the drilling, producing and transporting branches of the petroleum industry may procure quickly a solution of many problems confronting them from time to time in their work, The Oil and Gas Journal has arranged with leading engineers and other recognized authorities to answer questions submitted by readers of this publication pertaining to the work of drilling and producing crude oil and transporting this product.

Everyone is invited to submit questions freely. These questions will be submitted to proper authorities by Mr. Smiley, who edits the page, and answers, based on the best available information, will be published. Each question should give as much detail as possible, especially where it relates to matters where depths of sands, types of sands and operations on adjoining properties would have a bearing on the problem involved. The source of all questions will be considered as confidential and only initials will be published in connection with the question.

In this connection, The Oil and Gas Journal will be glad to publish articles from field men who have devised new methods or practices which are improvements.

In case an immediate answer is important, one will be given by mail if the writer requests it.

LITERATURE ON CORROSION

In L. G. E. Bignell's "Review of Oil Field Corrosion Problems for 1929," published in the Petroleum volume of the A.I.M.E. there is a reference to work done for the United States Bureau of Standards by Dr. K. H. Logan and Dr. Gordon N. Scott. May I ask if a report has been published by the bureau covering this work and if so, its name or number? I should like very much to have the details of this work and would appreciate anything you can do to make it available for me.—A. H. R.

Both Doctor Logan and Doctor Scott have written papers on various phases of their work. Before the A.P.I. meeting in Chicago last December, Doctor Logan made a report on the Bureau of Standards Soil Corrosion Investigation and it is published in D. and P. E. Bulletin No. 204 issued by the New York office of the Institute, 250 Park Avenue, New York.

This bulletin also contains another paper by Logan, Rogers and Putnam on Pipe Line Currents, and Doctor Scott has an article in the bulletin on "The Field Inspection of Protective Coatings Applied to Oil and Gas Lines."

In addition to those recent articles you are referred to the following former papers by these men:

Logan, K. H., Status of Soil Corrosion Investigation, The Oil and Gas Journal, August 30, 1928, p. T-209.

Logan, K. H., and E. H. Berger, Bituminous Pipe Coating Materials, The Oil and Gas Journal, December 9, 1926, p. 44.

Logan, K. H., Corrosion of Underground Pipe Lines. Chem. and Met. Eng., December 29, 1924, pp. 1,011-12.

Scott, Dr. Gordon M., Study of Soil Action on Pipe Lines, The Oil and Gas Journal, April 10, 1930, p. 112.

Bureau of Standards' Corrosion Work, by Charles E. Kern, The Oil and Gas Journal, June 5, 1930, p. T-122-G.

GEOLOGICAL DATA DESIRED

I wrote you some time ago regarding shallow producing areas in Oklahoma and in reply you mentioned an area east of Claremore where production is from about 500 feet. I should like to get the following information regarding this pool: (1) Producing formation. (2) Does this formation carry water elsewhere in area? (3) Structural condition. (4) Location of a dry hole just off edge of pool; that is, section, township, etc., and name of operator, or sufficient information for obtaining the log from the corporation commission. (5) The log or sufficient information to obtain the log of a producing well. (6) Where can a recent map of the area be obtained?—T. S. W.

The specific information for which you ask is not at hand and it is suggested that you write the Oklahoma Geological Survey, Norman, Okla., for a copy of its list of publications describing Oklahoma oil pools. You probably will find listed bulletins covering the particular areas in which you are interested. The same thing is true of the shallow area near New Castle, Tex., and if you will write the Texas Geological Survey, Austin, Tex., for a list of its bulletins you can select from them the ones that cover that particular area.

Bulletin No. 40-Q, issued by the Oklahoma Geological Survey, contains information about the geological section of Rogers County, east and north of Claremore. This bulletin sells for $1.

SIZE OF REPRESSURING PLANT

What method is followed in ascertaining the size plant needed for repressuring operations on a property? Is it known what amount of gas is needed for each additional barrel produced by repressuring or does this differ in different cases?—S. D. T.

Information on this point was obtained in an investigation conducted cooperatively by the United States Bureau of Mines and the American Petroleum Institute, the results of which were presented in a paper prepared by H. C. Miller, senior petroleum engineer of the Bureau of Mines in San Francisco. Mr. Miller says a study of the thickness of the producing sands, kind of sand, degree of saturation, formation pressure, past oil and gas production, and the probable area drained up to the time that repressuring operations are to begin will give valuable information on which to base the size of the plants required. Many operators also make preliminary tests with portable compressors to determine how much gas can be forced into the input wells, and at what pressures.

One engineer estimates that each injection well on the producing properties over which he has supervision will take from 100,000 to 150,000 cubic feet of gas per day, and constructs his plants accordingly. The engineers of a major company operating in Texas make preliminary tests with portable compressors to determine the injection pressure, and then arbitrarily assume the figure of 10,000 cubic feet of gas per day per foot of oil sand to determine the volume of gas to be injected initially into each input well. The volume per well is multiplied by the number of input wells to give the total volume of gas required. Compressor plants are then constructed on the basis of the computed total volume required.

The amount of gas required per additional barrel of oil produced by repressuring operations varies between wide limits. Certain engineers have found that 300 to 800 cubic feet of gas will produce an additional barrel of oil; whereas one engineer in the Rocky Mountain fields estimates that approximately 11,000 cubic feet of gas are required to drive a barrel of additional oil to the producing wells. The operations of one company in Texas show that 333 feet of gas produced a barrel of additional oil on a property which had formerly been under vacuum; whereas a property which had never been on vacuum required 2,000 cubic feet of gas per barrel of additional oil recovered.

WHY WAS IT CALLED THAT?

COW RUN

This is illustrative of how oil-producing districts get their names. The Noble well, early Oil Creek producer, was near a deep ravine through which ran an unnamed little stream. One day several teams drawing loads of oil barrels for the well—it was before pipe lines—were being driven along a narrow road at the top of the ravine when the foremost wagon got too near the edge and a wheel slipped over. The barrels tumbled from the wagon to the run 250 feet below. The rear teams had to wait till the wagon was righted and all the barrels had been rolled up the steep hill. As one perspiring man lifted a barrel to the wagon he exclaimed, "Boys, this is the second Bull Run disaster!" From that time the stream was called Bull Run. Of course the next stream just above it was named Cow Run. A third stream became Calf Run.

This company's average for all repressuring operations is approximately 1,350 feet of gas per barrel of additional oil produced.

BOTTOM HOLE PRESSURES

Could you tell me of any satisfactory installation by means of which pressure conditions at the bottom of oil and gas wells can be determined? We intend to do some research work on flowing wells and it is essential that we know the bottom hole pressures at different rates of flow.—P. P. G.

This department is glad to pass on to you information obtained from S. F. Shaw, consulting engineer with the Carter Oil Co. in Tulsa. Mr. Shaw advises that they are taking bottom hole pressure on wells in the Seminole area and elsewhere by the use of a small-volume, high-pressure compressor building up pressures at the bottom of the hole through tubing run into the well.

Tubing is run near to the bottom of the hole and from 25 to 30 cubic feet of gas, or air, per minute is pumped against the formation pressure. The pressure registered on the gauge at the compressor will rise gradually until the formation pressure is reached when no further increase in pressure is recorded. This gauge pressure plus the weight of the column of gas or air in the tubing gives the formation pressure.

Mr. Shaw said that this method was giving accurate records of bottom hole pressures in all types of formations. Care must be taken not to pump the gas into the tubing too fast and create an air-lift condition. This means a small input volume of gas but a compressor of high pressure capacity. Mr. Shaw stated that they use a small portable outfit for these tests and thinks you could arrange to make tests in the same way. If a recording pressure gauge is used a permanent record of the pressure increase will be made for future reference.

MOVING MUD IS DIFFICULT

In the field where I am working there is frequently occasion to move mud from the slush pit to a rig at a distance where we want to use it. We use a mud wagon, but we have a great deal of trouble conveying the mud from the pit to the wagon. Probably the same difficulty has been met in other fields. Can you tell me what has been found the easiest way to get the mud from the pit to the wagon?—D. E. N.

You might follow the practice established in the Oklahoma City Field, where it was necessary to secure mud from the slush pit at one drilling well for use at another.

They installed a steam slush pump at the pit from which they wished to obtain the mud and pumped it into dump body trucks which were assisted in leaving the vicinity of the pit by caterpillar tractors as the road adjacent to the pit was very muddy.

In Ventura Field, California, they have installed a central mud plant and prepare a standard mud there which is pumped to those leases where they are drilling and stored in 500 or 1,000-bbl. steel tanks to be held in reserve until such time as the mud in the pit needs replenishing. The worn-out mud is returned to the central plant for reconditioning and pumped out again as the wells need it.

This system of central mud plants seems to offer many advantages over the usual method of digging the required number of slush pits at each well. There are about 765 operations in Oklahoma City, that is wells completed and drilling, and it has been stated that the average cost of slush pit excavations per well was about $750, or a total investment of $573,750.

After the well has been completed these slush pits are worse than worthless, for they actually cover valuable land around the well with the debris and in California it is understood that the well owner is required to remove the cuttings from the well and such other material as is objectionable and again place the land in condition for cultivation.

If a central mud mixing plant is established and only a small pit dug at the well for the suction on the slush pump, and all returns passed over suitable screens that will remove the cuttings, it would be possible to handle the cuttings from the wells for road building, cement aggregates, and fillings for holes where made ground was required. The mud left in the pit at the end of the drilling operations could be reclaimed and used in other wells and in this way much expense in the purchase of new mud material would be eliminated.

PIPE LINE CAPACITIES

Could your department tell me the oil-carrying capacities of pipe lines of the following sizes with the pressure as given? The booster stations on the line would be approximately 35 miles apart. Two-inch line at 1,200 pounds pressure, 3-inch at 1,000 pounds, 4-inch at 900 pounds, 6-inch at 800 pounds, 8-inch at 700 pounds, 10-inch at 600 pounds, 12-inch at 500 pounds.—T. R. D.

Capacities of pipe lines of the sizes you name, at the pressures given, follow:

Size—	Pressure (pounds)	Capacity (bbls.)
2-inch	1,200	850
3-inch	1,000	2,150
4-inch	900	4,200
6-inch	800	10,800
8-inch	700	21,000
10-inch	600	25,000
12-inch	500	49,000

9 REASONS WHY
YOU WILL PROFIT BY USING

NEW BEDFORD
"NONE BETTER"
PURE MANILA

CAT LINES

Look for the Red and Blue Marker

1. Made of high quality Pure Manila Fibre.
2. Specially laid and constructed for catline use.
3. Each End whipped; will not fray out and unstrand.
4. Each line individually rolled and burlapped at mill.
5. Made water resisting for all weather service.
6. Careful inspection, insuring uniform quality.
7. Nearly a century of rope making experience back of each coil.
8. Material and workmanship guaranteed.
9. Cost no more than ordinary lines.

"If Continental Sells It.... There Is No Better"

THE CONTINENTAL SUPPLY COMPANY
General Offices: ST. LOUIS

THE CONTINENTAL SUPPLY CO., LTD.
224 Traders Building, Calgary, Alberta, Canada

Export Offices:
CONTINENTAL EMSCO COMPANY, INC.
74 Trinity Place, New York
London Offices: 316-17 Dashwood House, Old Broad St., E.C. 2

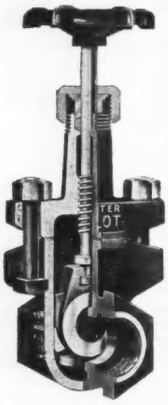
CONTINENTAL EMSCO S. A. R.
7, Strada Eminescu, Ploesti, Romania

CONTINENTAL

Oil Field Equipment and Supplies

"MASTER PILOT" VALVE FOR OIL FIELD NEEDS

The Powell new "Master Pilot" gate valve, made by the William Powell Co., Cincinnati, Ohio, was designed to meet a specific need in the oil industry for a medium - pressure moderately - priced gate valve in small sizes. Its construction insures equally good service when used on steam, air, water, oil or gas lines.



"Master Pilot" gate valves are made in sizes one-quarter-inch to 3-inch with screw ends and in sizes 1-inch to 3-inch with flanged ends. Sizes one-quarter-inch to 2-inch are designed for working steam pressures to 150 pounds at 450° F. total temperature, and 225 pounds water, air, oil or gas working pressures at 100° F. Sizes 2½-inch and 3-inch are designed for 125 pounds working steam pressure at 450° F., or 175 pounds water, air, oil or gas working pressures at 100° F.

These valves are furnished with high-grade cast-iron bodies and bonnets. The stems, packing nuts, and discs are made from high-grade steam bronze. For handling liquids and gases destructive to copper alloys the packing nuts and discs can be supplied of iron and the stems of steel. Valve bodies are made with heavy wall thickness and full way openings. Seat faces are large and wide, and accurately ground to insure proper alignment with the discs.

Two heavy lugs cast on the bodies are arranged to slip in and firmly hold head of proper size standard bolts for binding bodies and bonnets together. This construction affords ease in replacement of bolt in case of accidental burring of threads, which is not the case with the usual "U" type bolt arrangement. A gasket face is machined on the bodies and bonnets for tightly holding leakproof gaskets.

The bonnets are supplied with full acme thread, accurately machined. A large packing chamber is arranged in the top of the bonnet, allowing plenty of packing with gland follower. Heavy packing nuts are supplied for properly compressing gland followers on packing. Two through bolt holes are drilled in sturdy lugs on each side of the bonnets, which engage with bolts set in the body. Special gaskets are supplied for oil, gas, and gasoline, or air, steam, and water service.

Handwheels of the nonheating type are of malleable iron, with knob ends and large enough in diameter for a firm grip.

Stems are furnished with machined full acme threads, the unusual length of which assures long wear. A pack-under-pressure collar is machined on the lower part of the stem which allows the valve to be packed under pressure when full open.

COMPANIES EXHIBIT JOINTLY

Units of the Union Carbide & Carbon Corp., New York, will exhibit jointly at the twelfth annual National Metal Congress and Exposition in the Hotel Stevens, Chicago, September 22 to 26. The Linde Air Products Co., Prest-O-Lite Co., Inc., Oxweld Acetylene Co., Haynes Stellite Co., Oxweld Railroad Service Co., and Union Carbide Sales Co., will occupy booths where the products of these subsidiaries will be displayed.

CHANCELLOR SEPARATOR BELOW WORKING BARREL

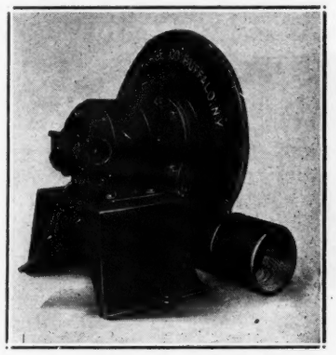
The Chancellor separator, manufactured by the Miller Sand Pump Co., Sapulpa, Okla., and installed below the working barrel, is the result of 15 years experimenting with various types of gas anchors by practical oil field superintendents. It is designed to separate the gas, sand, and water from oil at the bottom of the well. It helps to prevent cut oil by keeping the gas out of the tubing and pumping the water separate from the oil by use of the perpetual syphon tubes. First a head of water then a head of oil is pumped through the standing valve, keeping worn barrel, cut cups, and valves from emulsifying oil and water. This largely eliminates the treating of oil and increases the casing-head gas.

The Chancellor separator has two sand traps which settle out the sand. When the traps are filled the separator is flushed clean by pulling the lower valve which has no gas anchor attached. A larger sand trap can be made by attaching a longer anchor to the bottom of the separator.

Cavings from above cannot clog the separator as it is closed on top. There is always a full 1-inch stream to the lower valve. This feature makes it practical to use oversize valves. The tubing is always full of fluid thus decreasing paraffin trouble, saving stuffing box rubbers, polish rod, and all pumping equipment. Pumping time is reduced to a minimum. The device permits the pumping of wells under high back pressure.

BLOWER DESIGNED FOR USE IN THE OIL FIELD

The Buffalo oil field blower, manufactured by the Buffalo Forge Co., Buffalo, N. Y., is a portable, powerful blower for use on drill heating forges. It is



a sturdy outfit, especially adapted to the needs of the oil field. The blower is the standard Buffalo No. 4-E, with threaded outlet, taking a standard 4-inch pipe coupling.

The 3,400 r.p.m., one-half-horsepower motor is of rugged construction. Large, waste-packed bearings are used, assuring lubrication with little attention. The wheel or impeller of the blower is mounted directly on the extended motor shaft, so there is nothing to get out of alignment. The entire unit is substantially constructed to withstand rough handling.

FIRST USE OF DIRECT CURRENT IN DRILLING

The Standard Oil Co. of California, desiring to use electric power in drilling and at the same time to have a flexibility similar to that inherent in steam-driven drilling equipment, has made, in its Inglewood Field, just outside of Los Angeles, the first successful application of direct current to oil well drilling in the history of the petroleum industry.

This installation, developed by the Westinghouse Electric & Manufacturing Co. and designed especially for foreign use or for wildcat operation where water is scarce and where no electric power from commercial lines is available, includes two 200-horsepower, 450 r.p.m., 4-cycle, 6-cylinder Atlas Imperial Diesel engines, each of which drives, through a V-belt drive, a 125 k.w. direct-current generator at 1,200 r.p.m.

The current thus generated is supplied to a 125-horsepower, 250-volt, 900 r.p.m. compound-wound motor driving the mud pump and to the compound-wound drilling motor which has a dual rating of 125-horsepower, 250 volts, and 450 r.p.m. when drawing current from only one generator, and 250-horsepower, 500-volt, 900 r.p.m. when the two generators are operated in series. The current passes through a variable voltage control panel, and is regulated entirely by a master control on the derrick floor which actuates the resistance tubes and contacts in the control panel.

The two units are used partly as a protection against a breakdown of the power supply, as drilling can be carried on with only one generator working. While drilling ahead, the two generators are run independently, one operating the mud pump and the other the motor actuating the draw works and the rotary table. However, for purposes of pulling pipe or hoisting which require extra power, the power of the drilling motor is doubled by cutting out the mud-pump motor and using the current from the two generators connected in series for operating the drilling motor.

To avoid the possibility of fire, the power plant and the variable voltage control panel are situated in a powerhouse about 300 feet from the rig. Twenty-six small wires run from the power house to the motors. Although the generators, switches, and Diesels in the power house are not vaporproof, both the motors are totally enclosed to avoid the ignition of gas by electric sparks.

A direct-current outfit such as this provides flexible control, because the motors slow down under loads; smooth acceleration; high torque at low speeds; and high efficiency under all loads even with extremely low speeds.

BUSINESS NOTES

The Speeder Machinery Corp., manufacturer of gasoline shovels, cranes and draglines, has appointed the B. & A. Specialty Co., Tulsa, as Mid-Continent representative.

A folder describing the Cavins hydraulic suction bailer has been issued by the Cavins Bailer Service, Long Beach, Calif. This bailer, which operates almost entirely by the fluid pressure of the well, is designed to remove sand, millings and miscellaneous fish from the bottom of the hole.

The new plant of the American Tank & Equipment Corp., Oklahoma City, Okla., was opened Tuesday evning, August 26, with a program which included boxing, inspection of the plant and refreshments.

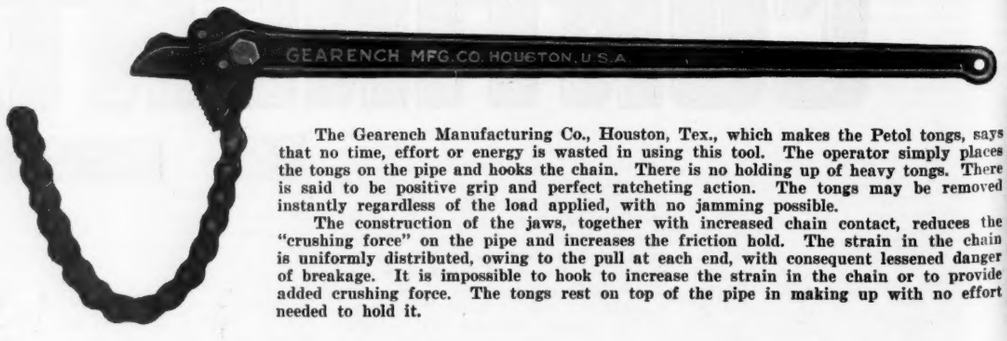
S. O. Hampil, general manager of the Gulf Coast Machine & Supply Co., Beaumont, Tex., announces the completion of a new assembly building, with addition of several new pieces of machinery, including a 3,000-pound steam hammer for the forge shop.

Henry L. Hines, for 10 years editor of "The Vent," published by the Gilbert & Barker Manufacturing Co., Springfield, Mass., has retired from active service. He was 70 years old on July 28 and has had long experience as a writer and newspaper man.

Paul Putnam now is associated with the Jay H. Skinner Advertising Agency, Houston, Tex., in charge of the oil field advertising department.

The Mason Regulator Co., Boston, Mass., will exhibit at the N.A.P.E. Power and Industrial Exposition in Cleveland, Ohio, September 8 to 12, a miniature working model boiler room designed by the company's engineers and a complete line of pressure control devices.

"CRUSHING FORCE" ON THE PIPE IS REDUCED AND FRICTION HOLD IS INCREASED



The Gearench Manufacturing Co., Houston, Tex., which makes the Petol tongs, says that no time, effort or energy is wasted in using this tool. The operator simply places the tongs on the pipe and hooks the chain. There is no holding up of heavy tongs. There is said to be positive grip and perfect ratcheting action. The tongs may be removed instantly regardless of the load applied, with no jamming possible.

The construction of the jaws, together with increased chain contact, reduces the "crushing force" on the pipe and increases the friction hold. The strain in the chain is uniformly distributed, owing to the pull at each end, with consequent lessened danger of breakage. It is impossible to hook to increase the strain in the chain or to provide added crushing force. The tongs rest on top of the pipe in making up with no effort needed to hold it.

TANDARD
Seamless
ULAR PRODUCTS
FANT & CO., INC.
CKED AT ALL
STORES
PPLY COMPANIES

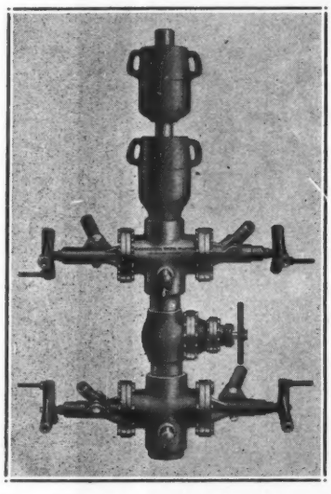
Oil Field Equipment and Supplies

EASY WAY OF SNUBBING TUBING UNDER PRESSURE

A simple, safe and easily operated method of snubbing tubing under pressure is said to be provided by the snubbing device manufactured by the Cameron Iron Works, 711 Milby Street, Houston, Tex., which has made a special study of equipment for this purpose.

The C-I-W tubing control heads are mounted, with a gate valve between, onto the last string of casing into which the tubing is to be snubbed. Specially constructed snubbers are used to force the tubing into the well against the pressure. Wire lines are run from ears in the traveling-snubber through sheaves mounted to the derrick foundation and thence back to a pulley on the traveling-block. This is a single continuous line, thus equalizing the pull-down force on both ears of the snubber and holding the tubing on a straight course.

These snubbers are fitted with inverted slips to allow the passage of couplings. A spring keeps the slips in their proper position in the snubber. When a coupling approaches the slips they push down and



away from the pipe to allow the couplings to pass. This same type of coupling is used in both the stationary and the traveling snubber, and at no time are both released from their grip on the tubing. The stationary snubber mounted on the upper control head holds the tubing in place while a new bite is being taken with the traveling-snubber.

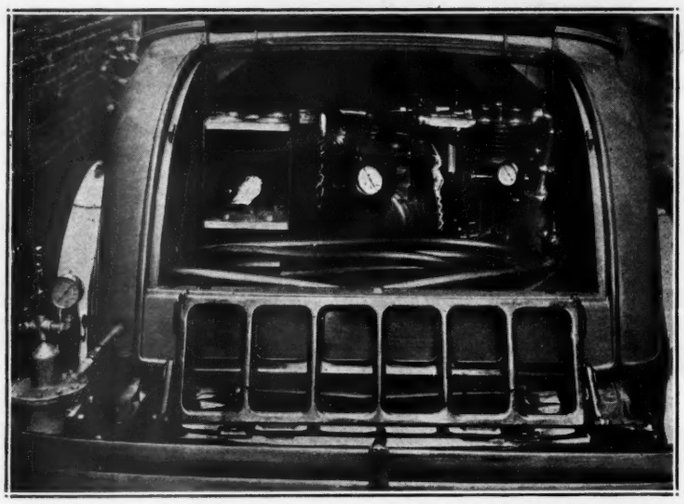
If the well is producing through the casing the master gate is closed above the manifold flow lines and the two Cameron heads are mounted on top of the closed gate valve while the well is allowed to continue flowing through the original manifold flow lines. If the well has tubing in it and has been completed with a Cameron control head the gate valve above the control head is closed, the manifold removed and another control head mounted above the gate valve. The snubbing procedure is then ready to start. The first joint of tubing is fitted with a cast disc or trip valve to keep the inside dry while going in the hole. The disc is broken or the valve opened when it is desired to allow gas or fluid to enter the tubing.

The gate valve remains closed until the collar of the first joint is below the rams in the upper control head. When the collar has passed the rams they are closed around the tubing and the gate valve then is opened. The pressure of the rams around the tubing is released slightly and the tubing forced into the well by an upward pull on the traveling-block. The stationary snubber with its inverted slip allows the tubing to enter the hole but holds it from being forced out. After the tubing has been forced down until the two snubbers meet, the traveling snubber is then hoisted up the tubing for another bite, a few feet at a time if the pressures are excessive or a joint at a time if pressures are low.

The tubing collars are passed through the control heads by alternately opening and closing the rams in the upper and lower heads. By this method the rams in one of the heads are always closed around the tubing. The rams are packed with a hydraulic packing which takes all wear and at the same time prevents the escape of gas or fluid. The packing can be renewed on the job if necessary without dismantling the hook-up: Excessive wear will be prevented if the tubing is oiled while being run in. After sufficient tubing has been snubbed to overcome the pressure of the well it can then be run in under its own weight.

When a desired amount of tubing is in the well, the rams in the lower head are closed and the joint above is backed out. A special landing nipple is attached to the joint in the well and the tubing allowed to remain suspended in the well on the tubing control head rams. After the joint has been backed out the disc or trip valve is released, the gate valve closed and the christmas tree installed. After all tank connections have been made, the gate valve is opened, the casing side outlets closed and the well then produced through the tubing.

TESTING DEVICE IS CARRIED IN BACK OF AUTOMOBILE



A complete testing device for determining the gasoline content of natural gas, the entire device installed in the turtle back of an automobile, has been put on the market by the Mathey Grinding & Machine Works, Tulsa.

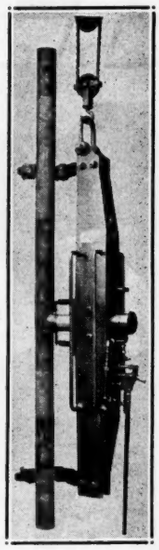
Motive power is furnished by the power takeoff direct from the transmission of the car. In making the change for the power takeoff no changes are made in the original transmission, as the Mathey transmission in an integral part of the car's transmission. All parts are standard to the make of the car, and may be obtained from any standard parts dealer.

The compressor completely assembled weighs 135 pounds, size over all, 21½"x 18"x10"; compressor cylinder size 2 11/16-inch; vacuum cylinder 6¼-inch. The main bearing is set in ball bearings. The crankshaft is counterbalanced and 1¼ inches in diameter.

The gasoline accumulator is the only piece set on the outside of the car. It is cast from acid-proof bronze. The installation is made on a quarter-inch boiler plate platform within the turtle deck. The complete installation is made without cutting the body of the car.

PIPE STRAIGHTENER IS HUNG IN THE DERRICK

The M. P. S. pipe straightener, manufactured by Hahn & Clay, Houston, Tex., and distributed by the Ed. B. Schulz Supply Co., of that city, is a device which is said to remove necessity for breaking down casing or drill stem and hauling it off to be straightened. With this appliance hung up in the derrick, the crew is able to straighten casing, drill stem or kelly joint either going into the hole or coming out. By means of a small detachable pump handle a power of 75 tons is developed.



This new piece of oil field equipment operates on the hyraulic principle. Lubricating oil is the displacing element. The device operates in either a horizontal or vertical position. It will straighten casing, drill stem or other metal bars or shafts in size range from 2-inch to 6⅝-inch, either on the ground or in an upright position. If used in a drilling well, a catline is sufficient equipment to swing it into position or hang it up out of the way when not in use. It can be moved from place to place in a small truck, or even the back of an automobile. It weighs 590 pounds.

To operate the straightener in a vertical position, the operator hangs it by becket and attaches slip-on lever to vertical connection, opening petcock on oil tank and closing hydraulic globe valve. After pipe or kelly is straightened he opens the globe valve and springs pull the cylinder back in place.

To operate horizontally, the same operation is necessary with the exception that the pump handle is attached to the horizontal connection.

The only difference between operating the straightener horizontally and vertically is in changing of the hand lever from one connection to the other. After operation is completed the handle may be slipped over a pin on the body of the straightener between the guards.

The straightener is built with four seven-eighths-inch by 32-inch welded guards on either side of it, and one three-quarters-inch by 32-inch welded guard over the pump, for protection.

BOLT DIE-HEADS AVAILABLE

The Borden Co., Warren, Ohio, announces that users of No. 3 Beaver ratchet die stock (one-eighth to 1 inch) may obtain bolt die-heads for this tool for threading bolts, rods, etc., in all sizes from one-eighth to 1 inch inclusive.

TRADE LITERATURE RECEIVED

The Heppenstall Co., Pittsburgh, Pa., and Bridgeport, Conn., has completed a 52-page booklet, uniform with its other pieces of literature, on Heppenstall die blocks.

A new bulletin describing waste heat boilers of a kind wholly different from those used in the past has been issued by the Foster Wheeler Corp., New York.

The General Electric Co., Schenectady, N. Y., is sending out bulletins on "Copper Brazing and Copper-Brazing Furnaces," and "Centrifugal Compressors."

Two new publications pertaining to mechanical power transmission equipment for general industrial use have been issued by the Westinghouse Electric & Manufacturing Co. Westinghouse-Nuttall flexible coupiings are the subject of Circular 1,887. Circular 1,891 is devoted to Westinghouse-Nuttall speed reducers Types SVR, DVR and DVRA.

"Engineering Data on Pipe Fabrication" is the title of a convenient loose-leaf booklet published by the Grinnell Co. The booklet, which contains useful information on power plant and industrial piping, may be obtained from the company's new office, 327 Exchange Bank Building, Tulsa, or from its main office in St. Louis.

GRINNELL OPENS TULSA OFFICE

The Grinnell Co., St. Louis, Mo., has opened an office in the Exchange Bank Building, Tulsa, with E. J. Moran in charge. This office, serving the Oklahoma and Texas territory, will specialize in the handling of fabricated piping, pipe fittings, valves and unit heaters.

ONE-WAY ROOF FOR POLES

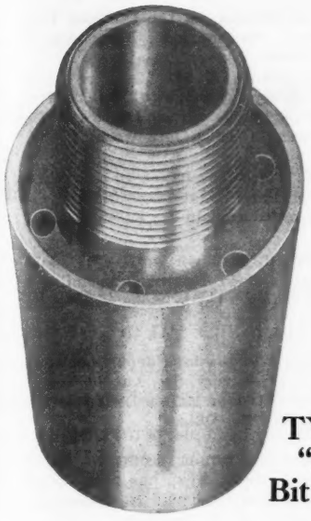
The International Creosoting & Construction Co., Galveston, Tex., is presenting to utility engineers and others a new type of pole roof which is said to reduce checking, provide better drainage and to conserve the preservative. It is made by applying a one-way cut instead of the usual two-way cut. The one-way roof is of 15° and the cut is so made that it drains water away from the gain. The Bell system, the Electric Bond & Share Co., and other utility organizations are reported to have standardized on the one-way roof.

The Darling Valve & Manufacturing Co. has opened new Pacific Coast offices and warehouse at 2450 Hunter Street, Los Angeles, Calif., with Harry L. Carr as manager.

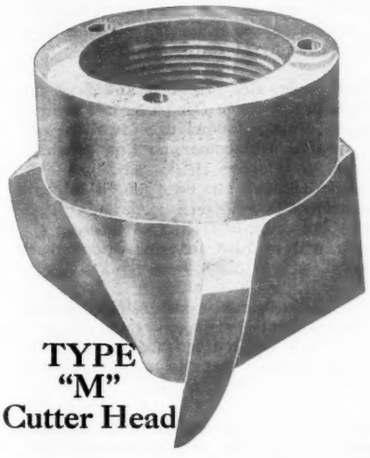
When better core barrels are designed

Perfection

will be their name!



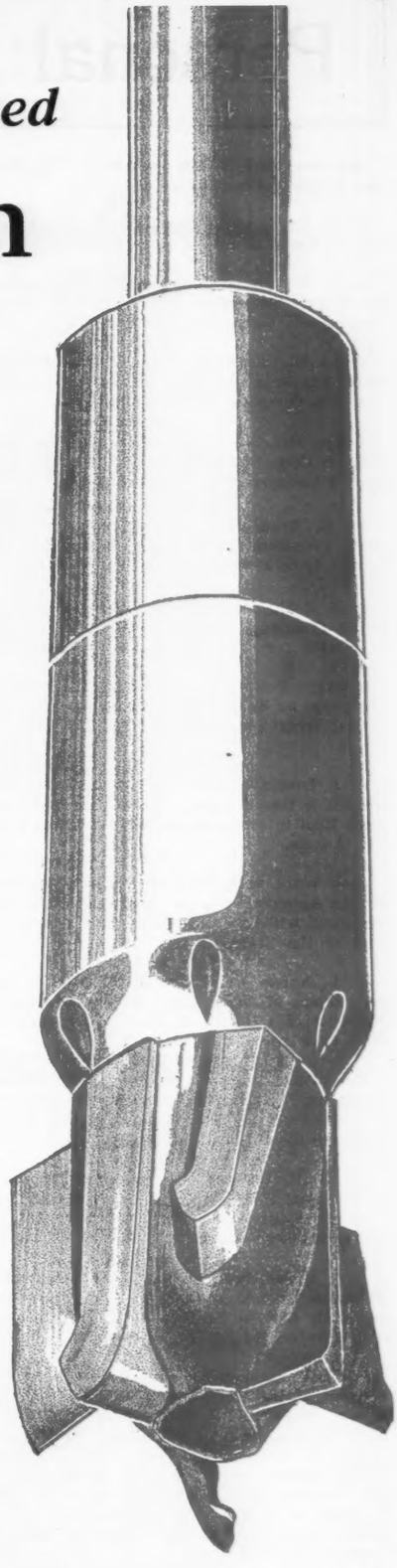
TYPE "M" Bit Body



TYPE "M" Cutter Head

Constant advances in design, backed by precision manufacture in finely-tooled, splendidly manned shops—that is why 9 out of every 10 contractors give the Perfection Core Barrel the same unqualified endorsement.

The latest is the Type "M" Perfection Core Barrel—designed to put circulation directly on the cutting edge. The result is an efficiently cooled bit that makes hole fast through hard formations. Convert your Type "C" Perfection Core Barrels by replacing Type "C" Bit Body with Type "M". We will furnish the latter free to owners of Type "C" barrel.



The Brewster COMPANY~INC.
SUCCESSORS TO OIL CITY IRON WORKS INC.
Shreveport, Louisiana

Ask today for Catalog and Prices

COMPLETE STOCK carried at these warehouses: Iverson Specialty Co., Oklahoma City, phone 2-2833; Houston Store, 2000 Harrington St., Houston, Texas, phone Capitol 3021. *Distributors:* Wilson Supply Co., Houston, Beaumont and Luling, Texas; Continental Supply Co., all stores; Murray-Brooks Hardware Co., Lake Charles, Louisiana; T. T. Word Supply Co., Houston, Texas, and Lake Charles, Louisiana; The Ellis Iron Works, Inc., El Dorado, Arkansas.

YOUR GUARANTEE of SATISFACTION is the BREWSTER NAME

Ask about these other Brewster Products

A.P.I. Shouldered Tool Joints; Perfection Core Barrels; Chrome Nickel Drill Collars; Special Fish Tail and Gumbo Bits; Core Barrel Cutter Heads for both hard and soft formations—hard formation cutter heads are faced with a substance of diamond-like hardness.

Personal Paragraphs About Oil Men

Jay Hoagland is now connected with the Calumet Refining Company.

* * *

D. H. Byrd, of Dallas, Tex., is on a trip to the Pacific Coast to return early in September.

* * *

G. H. Westby, with the geological department of the Empire Companies, has returned to his desk at Bartlesville, Okla., from his vacation.

* * *

Frank H. Littlefield, of the Continental Oil Company, has been elected a director of the National Refining Company of Cleveland, Ohio.

* * *

Angus McLeod, chief geologist of the Shell Petroleum Corporation, at Dallas, Tex., has returned from a business trip to St. Louis, Mo.

* * *

W. K. Evans, formerly regional director of the Shell Petroleum Corporation, in Chicago, has returned from a business trip in the East.

* * *

Fred Robinson, formerly with the Calumet Refining Company, is now traveling in the State of Wisconsin for the Fred G. Clarke Company.

* * *

Bonneau Peters, chief scout for the Standard Oil Company, at Shreveport, La., and family, have returned from a vacation automobile tour of California.

* * *

A. I. Levorson, chief geologist of the Independent Oil & Gas Company, Tulsa, has been spending some time in the company's West Texas offices at San Angelo.

* * *

Jack Watt, with the Lion Oil Refining Company at San Antonio, Tex., has been ordered to Midland, Tex., and will be in charge of district work in that part of the State.

* * *

H. L. Norris and Byron Weatherby, of the land department of the Prairie Oil & Gas Company at Tulsa, have returned to their office after several days in Shreveport, La.

* * *

Fred Turner, of the land department of the Shell Petroleum Corporation, formerly located at San Antonio, Tex., and Muskegon, Mich., has been transferred to the Dallas, Tex., office.

* * *

Dr. E. R. Lederer, vice president of the Texas Pacific Coal & Oil Company, Fort Worth, Tex., and family, are spending a three weeks' vacation in the mountains near Antonita, Colo.

* * *

A. A. Mason, head of the land department of the Magnolia Petroleum Company at Shreveport, La., has been sent to South America by the company and is succeeded by Mr. Harralson.

* * *

H. L. Montgomery, manager of the natural gas division of the Empire Companies, is convalescing at the Memorial Hospital in Bartlesville, Okla., where he underwent an operation for appendicitis.

* * *

Hoyt Ogram, formerly with the Kanotex Refining Company, and recently in charge of the Iowa business of the Barnsdall Refining Company, is no longer connected with the latter. He has not announced his new plans.

* * *

J. W. Kistling, in charge of the Amerada Petroleum Corporation, Shreveport, La., offices has been transferred to the company's New Mexico headquarters, and Milton Houston, scout and land man, has been transferred from Shreveport to Tyler, Tex.

* * *

John Teagle, III, nephew of Walter C. Teagle, president of the Standard Oil Company, New Jersey, graduate of Cornell University, is working under J. Ben Corsey, geologist for the Humble Oil & Refining Company, McCamey, Tex,. to learn the oil business from the ground up, specializing in geology. He has been in McCamey with the company since last April.

O. D. Strong, district sales manager, Reading Steel Casting Company, made a business trip to Wichita, Kans., for a few days recently.

* * *

Roy O. Neal, consulting gas engineer, has returned to Tulsa from Utah where he has been doing some special work for the Guggenheim interests.

* * *

H. M. Maccomber, vice president and general manager of the Getty Petroleum Corporation, has returned to Fort Worth, Tex., from a business trip to St. Louis, Mo.

* * *

R. D. Saunders, purchasing agent for Southern Crude Oil Purchasing Company, has returned to Fort Worth, Tex., after spending his vacation in the White Mountains of New Mexico.

* * *

W. W. Wilson, vice president in charge of manufacturing of the Byron Jackson Company, has returned to Los Angeles, Calif., following a three weeks' pleasure trip spent in Mexico.

* * *

R. E. Allen, assistant to Umpire Paul Grimm, one of the two California umpires, has returned to the Los Angeles office after an absence of two weeks spent in making a personal inspection tour of fields operating under the supervision of Umpire Grimm.

Men in the Industry

J. J. Zorichak

J. J. Zorichak, who recently succeeded Fred E. Wood as petroleum engineer for the Midwest Refining Company in Casper, Wyo., was born in Bitumen, Clinton County, Pennsylvania, in 1899. After completing a commercial course in the Williamsport Commercial College, Williamsport, Pa., Mr. Zorichak entered the employ of the Aetna Explosives Company in Emporium, Pa. He remained with that concern for two years, serving first as a stenographer and later as acid accountant.

Mr. Zorichak then entered Pennsylvania State College, graduating in mining geology in 1923. He entered the employ of the Midwest Refining Company in the Grass Creek Field, Wyoming, a few weeks after his graduation. He was transferred to the company's petroleum engineering department in Casper in April, 1926, serving as assistant to Mr. Wood. When Mr. Wood was transferred to the Chicago office of the Standard Oil Company (Indiana) August 1, 1930, Mr. Zorichak was named to fill the vacancy thus left. Mr. Zorichak is a member of the American Association of Petroleum Geologists.

Francis A. Dunigan, of the Dunigan Tool & Supply Company, Breckenridge, Tex., was a recent visitor to Tulsa.

* * *

L. C. Scott, sales manager at Dallas, Tex., of the D.&B. division of the Emsco Derrick & Equipment Company, was in Tulsa last week.

* * *

Daniel T. Pierce, assistant to the chairman of the board of the Sinclair Consolidated Oil Corporation, has sailed to join H. F. Sinclair in Europe.

* * *

C. B. Hulbert, manager of the Oil Well Supply Company at Tampico, Mexico, is spending his vacation in the states. He is being relieved by W. P. Laseter.

* * *

A. L. Krueger of the land department of the Phillips Petroleum Company, San Angelo, Tex., has been spending several days at the company's main offices at Bartlesville, Okla.

* * *

Mark Plummer, former scout for the Pure Oil Company at Lubbock, Tex., has been transferred to Tyler in East Texas and will be connected with the land department of the company.

* * *

E. L. Simmons, scout for the Pure Oil Company, and newly elected vice president of the West Texas Oil Scouts' Association, is spending his vacation with his family at Galveston, Tex.

* * *

Dick Clark, vice president and sales manager of the Baash-Ross Tool Company, has returned to Los Angeles, Calif., following a two weeks' business trip spent in Oklahoma and New Mexico.

* * *

Frank Killough has been placed in charge of the Independent Petroleum Association of Texas affairs in the San Antonio district. A meeting of the association will be held in San Antonio early in October.

* * *

W. C. Hildebrandt, assistant sales manager of the Crown Central Petroleum Corporation, Houston, Tex., is now located in Chicago indefinitely. His work at Houston and the southern territory is being handled by Otis Brogdon.

* * *

A. E. Oldham, geologist with the Amerada Petroleum Corporation at San Antonio, Tex., has resigned his position to become chief geologist for the Louisiana Oil Refining Company at Shreveport, La., and has moved to Shreveport.

* * *

W. M. Howard, geologist, is going to the Dutch West Indies for the Gulf Exploration Company He was formerly of the geological department of the Milham Corporation of Texas at San Antonio. His new address will be Batavia, Java.

* * *

The Gulf Production Company is moving its Wichita Falls office to Fort Worth, Tex., on September 1. C. W. Hanley, zone agent at Wichita Falls for several years, C. E. Parker of the land department, W. Guy Sinclair, production clerk, and Bill Maloney, scout, will be affected by the move.

* * *

C. W. Hanley, zone manager for the Gulf Production Company in the Central West Texas district, is being moved to the Fort Worth offices effective September 1. He was transferred to Wichita Falls six years ago when Eastland and Wichita Falls both had Gulf zone offices.

* * *

H. Smith Clark, division geologist for the Sinclair Oil & Gas Company, Fort Worth, Tex., is spending a week with the Kansas Geological Society on its fourth annual field trip. This year's trip is being made in the Rocky Mountain front range of Colorado and northern New Mexico, under the direction of R. Clare Coffin, chief geologist of the Midwest Refining Company, and the leadership of I. A. Keyte, professor of geology in Colorado College. Marvin Lee is chairman of the committee on arrangements.

Shutting off waste

Until drilling for petroleum became an industry, men's knowledge of oil, gained only from observing it in those few places where it happened to reach the earth's surface, was curiously superstitious. So fires, burning apparently of themselves, in the region of the Caspian Sea, were worshipped long before the Christian era. So in 1775 George Washington dedicated to the country, as a National Park, a tract of land on which had been discovered a burning spring.

Burning oil still remains a spectacle: exciting not awe, but an appalling sense of waste. Ever since the oil age began oil men have concerned themselves with developing means of controlling this waste.

Founded in 1855, Crane Co. too has dedicated itself to this problem. Each year it has approached nearer its goal. Now it offers as a genuine contribution this new line of steel flow and drilling through valves.

Designed to give exact and easy control of oil at every step in drilling and piping at the well, these valves show the *intimate* understanding of oil men's problems which Crane Co. has gained through its 75 years of serving the industry.

Equalling the serviceability of their design is their strength. The alloy steel of which their bodies and bonnets are made is manufactured by the basic electric furnace process. After the risers have been removed, each casting is thoroughly and uniformly heat treated to refine the grain and relieve cooling strains. This imparts to the castings those qualities that are so necessary under severe service—malleability, strength, and resistance to erosion. To assist oil men to get the greatest service and efficiency out of piping installations, Crane Co. maintains a group of experts . . . to command their knowledge and experience, wire or write Crane Co.

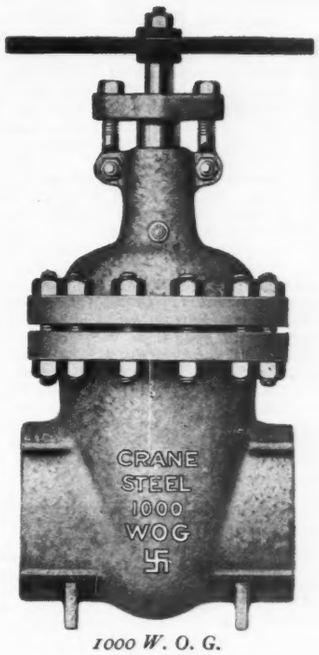
CRANE

PIPING MATERIALS TO CONVEY AND CONTROL STEAM, LIQUIDS, OILS, GAS, CHEMICALS

CRANE CO., GENERAL OFFICES: 836 S. MICHIGAN AVE., CHICAGO
NEW YORK OFFICE: 23 W. 44TH STREET

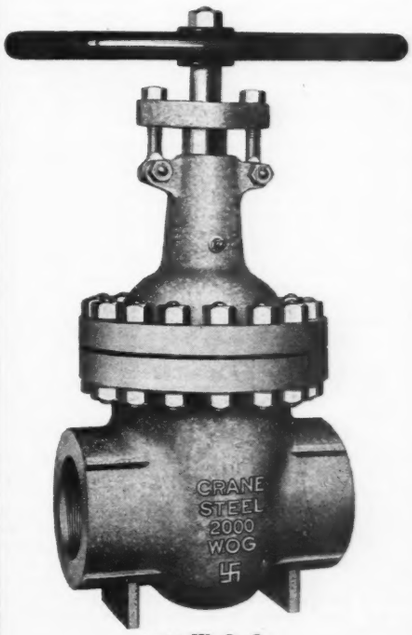
Branches and Sales Offices in One Hundred and Ninety-six Cities

1855
SEVENTY-FIFTH
ANNIVERSARY
1930



1000 W. O. G.

2000 pound test alloy steel manifold-flow line gate valve, 68-S



2000 W. O. G.

3500 pound test alloy steel manifold-flow line gate valve, 84-S

Technical Questions Answered

BY CHARLES K. FRANCIS, PH.D., TECHNICAL EDITOR

This department of The Oil and Gas Journal is devoted to the manufacturing branches of the oil industry.

Those connected with the refining of crude petroleum, the manufacture of natural gasoline and closely allied industries are invited to submit their problems to Dr. C. K. Francis, technical editor. The department was created for the purpose of aiding managers, superintendents, engineers, chemists and all those engaged in the various phases of plant operation; also those connected with the marketing and utilization of petroleum products.

Questions should be submitted in as much detail as possible so as to assure a satisfactory answer.

All inquiries should be signed and if other than the given initials are to be used please indicate the desired letters.

Questions involving patented processes, intricate formulas and calculations and estimates of costs, for obvious reasons, cannot be answered. The replies will appear on this page within a reasonable time.

SLUSHING OILS FOR INHIBITING CORROSION

What kind of oils are slushing oils? What use is made of them? We would appreciate any specifications for such oils if you have them?—A. M. Y.

Slushing oils are compounded preparations that are used as protective coverings for metal for the purpose of preventing the corrosion of metals while they are not in use. These preparations may vary from petrolatum to mixtures that may contain mineral, vegetable, and animal oils or greases with soap, lime, rosin, mineral matter and fatty acids.

Walker and Steele, Technological Paper 176, Bureau of Standards, 1920, investigated such mixtures. They state that an ideal slushing compound should be easy to apply to all kinds of metal surfaces and one that may be easily removed when desired. The investigations indicate that all manufacturers who have attempted to produce slushing oils containing rust inhibitive chemicals have prepared a product which was essentially an emulsion of a water solution of sodium or potassium chromate in a petroleum residue base, but any more than a trace of water is not to be desired in a material of this character.

A mixture, which tested well, was made from

	Grams of cc.
Rosin H. grade	20
Petrolatum	100
Kerosene	10

The rosin was melted and mixed with hot petrolatum and thoroughly stirred. After the mixture had partially cooled the kerosene was added. The rosin increased the adhesive property of the mixture over that of the petrolatum when used alone. Other mixtures were made for high melting point service. Two of these of semisolid consistency were made by the following formulas:

Formula A. Three parts candelilla wax, 6 parts rosin, grade H, 50 parts petrolatum.

Formula B. Two parts carnauba wax, 5 parts rosin, grade H, 50 parts petrolatum.

The materials should be heated together at about 250° F. until all the ingredients are melted, then the mixture thoroughly stirred and allowed to cool. These mixtures are not claimed to be the best rust preventives which can be made to fulfill the requirements of the proposed specification, but are cited merely as examples of easily made compounds which were found to prevent rust in a satisfactory manner.

The specifications are:

1. The material shall furnish a coating that shall firmly adhere to all metal surfaces at all temperatures at which they may be exposed under natural conditions.

2. The coating shall permanently remain in such a condition that it can be readily removed with cotton waste wet with kerosene.

3. When applied to polished iron, steel, brass, and copper surfaces and exposed at any temperature below 212° F. for a period of not less than five days, there shall be no stains on the metal or other evidence of corrosion due to the slushing oil.

4. A combination salt spray test is described, a part of which provides for atmospheric exposure. No rust shall appear on the polished steel plates that have been covered with the mixture, after five days' exposure in the laboratory, nor after 60 days in the atmosphere.

REFRIGERATING AUDIFFREN COMPRESSION SYSTEM

It would be appreciated if you would tell us what is the Audiffren refrigerating system? This is mentioned as of French origin and we are interested in obtaining a brief description of apparatus—L. W. W.

There is a description of the Audiffren compression unit for refrigeration in Elementary Mechanical Refrigeration, by Matthews, page 41.

An expensive feature of small scale refrigeration units has always been the loss of the refrigerant through packed glands and the several connections. The French inventor Marcel Audiffren devised a unit to prevent this loss by enclosing the entire system in a sealed case. His machine consists of two small gas compressors suspended on a shaft, all of which is enclosed so as to make a dumbell shaped casing. The shaft is provided with cranks in line with the compressor cylinders and the whole is so arranged that when the casing and shaft are revolved and the compressor remains stationary, a reciprocating motion is given to the compressor piston as in the usual type. The casing, mounted on suitable bearings, with its axis horizontal, is half submerged in a tank so arranged that one section of the casing revolves in a liquid on one side of a partition through this tank, while the other part containing the compressor revolves in another liquid on the other side of the partition. Two ducts are provided through the shaft connecting the two parts of the casing, one of which forms a suction line to the compressor and the other an expansion or liquid line to the other chamber.

When charged with a refrigerating liquid, the tank surrounding the casing containing the compressor is filled with cooling water, that surrounding the other casing with brine, and the machine placed in operation. The action of the compressor is to draw the vaporized refrigerant from the expansion chamber, compress it, and discharge it into its condensing chamber, where, being surrounded by cooling water, it again liquefies under the higher pressure. The liquid refrigerant, thrown to that part of the casing most remote from the axis of rotation, enters the liquid line and is conducted to the other compartment, where evaporating at a lower pressure, it refrigerates the brine surrounding the refrigerator chamber, and finally returns as a gas to the compressor to be again liquefied by the cooling water surrounding the condenser chamber.

EXPORTS PETROLEUM AND PETROLEUM PRODUCTS

Would you be kind enough to show what country imports the larger part of crude oil and petroleum products from the United States?—R. G. S.

England and her colonies, the United Kingdom, is the largest importers of petroleum products from the United States. The data following are as arranged by the Western Petroleum Refiners Association from the reports of the Department of Commerce:

PETROLEUM IMPORTS TO THE UNITED KINGDOM

	Barrels		Percentage
	1927	1929	change
Crude oil	19,000,000	14,000,000	*26.3
Gasoline	16,000,000	24,000,000	†50.0
Lubricating oil.	2,617,000	2,799,000	†7.0
Gas oil and fuel	15,000,000	14,875,000	*0.8
Kerosene	6,117,000	7,290,000	†19.2

*Decrease. †Increase.

It should be noted that the greater part of the crude oil exported from the United States is delivered through pipe lines to refineries located close to the border in Canada. In 1927 gasoline represented 27 per cent of the total petroleum imports of the United Kingdom. Two years later gasoline was increased to 38 per cent. In 1927 there were 13,691,000 bbls. of the 16,000,000 bbls. of gasoline imported, or nearly 86 per cent, originated at United States refineries. In 1929 we supplied 73 per cent of the 24,000,000 bbls. imported.

The United Kingdom increased its gasoline imports 50 per cent in the two years, but the quantity supplied by the United States increased 28 per cent.

TESTING GASOLINE FOR COLOR STABILITY

There have been so many different methods proposed and used for determining the color stability of gasoline that I wish to inquire if you have a list of the principal tests used for this purpose, and the methods of operation for making these tests? I am very anxious to secure the most important and most widely used of these methods—H. M. S.

Color stability tests of petroleum products may be made by exposing samples to sunlight or to the rays of artificial light. The American Society for Testing Materials does not appear to have suggested a method for making this test, but some sort of a test for color stability of gasoline is made by most refiners and marketers. There is no evidence that the darkening of gasoline when exposed to light has anything to do with the performance of the product in a motor.

The simplest test is that in which samples of gasoline are exposed to the direct rays of the sun in the ordinary 4-ounce oil sample bottles for periods varying from one to four hours. An important detail is that the bottle must remain tightly stoppered for the entire period of the test, so the samples are set out in the number of bottles corresponding with number of color determinations to be recorded. The samples must be exposed in an open place where there will be no shadows. The time of day and temperature are important factors. The general appearance of the samples may be noted at the end of each hour; it being customary to observe any indication of cloud and change in color, such as—"slight cloud," "light yellow," "dark yellow," "brown," etc. The exact color shade is determined, by means of the Saybolt colorimeter, from a filtered sample.

A similar test is made by some refiners of samples exposed to the sunlight in 5-gallon bottles or regular 10-gallon station bowls. The same observations are made but the time may be lengthened to a total of eight hours.

Textile materials have been examined for fastness to light by means of the ultra violet lamp and this apparatus has been used to some extent for color stability tests of lubricating oils and gasoline. The samples are exposed to the light rays in any convenient container but glass cells and 4-ounce bottles are used. If all the details were standardized it appears that an artificial light would be found more reliable for this test than exposure to sunlight. Machines are in use for testing dyed materials, paints, and other colored substances, and with slight modification several of these could be adapted for the examination of petroleum liquids.

ESTIMATING WATER IN TANKS

We use a chalked rod for finding the water line in storage tanks, but this is not always satisfactory and I would like to know if there is a better way of making such a test?—R. Y. C.

The most accurate method for determining the quantity of water in a tank is by means of a good thief after the approximate water line has been located by some other means. See A.S.T.M. Committee D-2 report under Tentative Methods of Sampling Petroleum and Petroleum Products, 1927.

A note in Petroleum Times, July 26, 1930, states that certain refinery operators are now claiming that a thin film of black molasses on a brass rod serves as the best indicator in gauging water and b.s. in fuel oil, and is better than the prepared papers hitherto used. This method also has the advantage of showing the nature of the emulsified water and oil layer without having to withdraw a sample. The calibrated brass rods in use are of about three-eighths inch in diameter and are of convenient length.

No particular care needs to be exercised in applying the molasses to the brass rod except that the molasses film must be unbroken from the lower end of the rod past the point where the water and emulsion is thought to be. The water dissolves the molasses and leaves the yellow brass clean. An emulsion causes the molasses to become speckled and the varying concentration of water will show in the rod. If there is only a slight amount of water present, the rod will not show through the black molasses except as very tiny dots. If there is considerable water present, the rod will show through in large spots and after a little experience the gauger is able to judge the nature of the b.s. fairly accurately.

COLORED GASOLINE

We would like to know to what extent gasoline is artificially colored as distributed by the filling stations? Is the coloring of gasoline a matter of law or simply a marketing condition?—O. H. J.

The Bureau of Mines has reported on the quality of 158 samples of gasoline collected throughout the United States among which there were 56 samples containing coloring matter. This is equivalent to 35.41 per cent and this percentage probably represents the proportion of premium gasoline now being sold.

The coloring of gasoline with oil soluble dyes is not a legal requirement by the various states but is largely for the purpose of classifying the gasoline that is to be used for motor fuel purposes exclusively. Most of the colored gasoline is antiknock gasoline.

CALIFORNIA OIL FIELD OPERATIONS FOR JULY, 1930

According to figures collected by the American Petroleum Institute, Pacific Coast office, the total production of crude oil in California for July amounted to 18,802,024 bbls., an average of 606,517 bbls. per day. This is an increase of 5,824 bbls. per day over June production.

Total stocks of crude and all products in Pacific Coast territory decreased during the month 2,086,307 bbls. The total stocks at the end of the month were 182,255,945 bbls. The total stock decrease for 1930, up to July 31, was 2,507,788 bbls.

Forty-seven wells were completed during the month with an initial daily production of 33,586 bbls., compared with 52 wells completed during June with an initial production of 42,522 bbls.

PRODUCTION

(Figures of production and stocks are in barrels of 42 gallons)

District—	Barrels per month	Daily average— July, 1930	June, 1930	July, 1929
Kern River	431,958	13,934	14,344	15,573
Mount Poso	338,877	10,932	13,215	4,519
Fruitvale	75,739	2,443	2,676	2,101
Round Mountain	116,236	3,750	3,696	18
McKittrick	115,835	3,737	3,882	4,553
Midway-Sunset	1,983,475	63,983	62,714	65,962
Elk Hills	556,712	17,958	19,334	15,697
Lost Hills-Belridge	68,304	2,203	2,274	4,513
Coalinga	286,456	9,241	9,370	10,496
Kettleman Hills	417,475	13,467	14,390	3,463
Wheeler Ridge	18,014	581	592	663
Watsonville	1,938	63	63	62
Santa Maria	111,134	3,585	3,296	4,236
Capitan	469	15	25	...
Summerland	11,144	359	311	131
Elwood	1,379,544	44,501	43,690	27,081
Santa Barbara	.....	.....	.....	58
Rincon	76,957	2,482	2,660	3,128
Ventura Avenue	1,525,544	49,211	48,288	56,700
Ventura-Newhall	146,133	4,714	4,810	4,942
Los Angeles-Salt Lake	46,653	1,505	1,503	1,509
Whittier	43,644	1,408	1,429	1,572
Fullerton (Brea Olinda)	369,354	11,915	12,220	12,950
Coyote	368,202	9,942	10,327	11,959
Santa Fe Springs	3,477,645	112,182	113,048	262,405
Montebello	226,178	7,296	7,239	9,683
Richfield	273,537	8,824	8,951	15,768
Huntington Beach	894,233	28,844	28,499	43,907
Long Beach	3,104,231	100,137	93,069	173,781
Torrance	361,392	11,658	11,607	13,509
Dominguez	319,492	10,306	10,085	10,077
Rosecrans	210,167	6,780	6,912	6,564
Inglewood	536,627	17,311	17,212	24,353
Newport	1,240	40	40	40
Seal Beach	648,134	20,908	20,401	50,248
Potrero	57,617	1,859	3,981	695
Lawndale	8,231	266	277	1,490
Playa Del Rey	253,503	8,177	4,263	.....
Total	18,802,024	606,517	600,693	864,407
June	18,020,795	600,693	.....	.....
Increase	781,229	5,824	.....	.....

STOCKS

	July 31, 1930	June 30, 1930	July stock decreases	July 31, 1929
Heavy crude, heavier than 20° A.P.I., including all grades fuel	112,250,064	113,036,486	786,422	106,212,606
Refinable crude, 20° A.P.I., and lighter	41,831,069	41,863,482	32,413	34,621,117
Gasoline	16,443,513	17,108,859	665,346	14,690,899
Naphtha distillates	3,518,175	3,640,114	121,939	2,799,625
All other stocks	8,213,124	8,693,311	480,187	10,836,892
Total all stocks	182,255,945	184,342,252	2,086,307	169,161,139

DEVELOPMENT

District—	Development: New rigs up	Active drlg.	Completed	Daily initial output	Active producing	Abandoned wells: Drillers	Producers
Kern River	3	2	1	350	905	1	0
Mount Poso	0	1	2	200	77	0	0
Fruitvale	0	1	0	0	18	1	0
Round Mountain	2	8	1	175	22	1	0
McKittrick	0	0	0	0	249	0	0
Midway-Sunset	4	17	2	116	1,915	0	4
Elk Hills	0	1	0	0	235	0	0
Lost Hills-Belridge	0	2	0	0	166	0	0
Coalinga	0	1	0	0	730	0	11
Kettleman Hills	1	7	0	0	6	0	0
Buttonwillow gas field	1	1	0	0	7	0	0
Wheeler Ridge	0	0	0	0	33	0	0
Watsonville	0	0	0	0	6	0	0
Santa Maria	0	1	1	275	180	0	0
Capitan	0	1	1	115	1	1	0
Summerland	0	0	0	0	97	0	0
Elwood	2	8	6	11,840	41	1	0
Santa Barbara	2	2	0	0	0	0	0
Rincon	2	3	0	0	32	0	0
Ventura Avenue	1	22	1	375	147	0	0
Ventura-Newhall	4	16	2	225	415	1	0
Los Angeles-Salt Lake	0	0	0	0	301	2	23
Whittier	0	1	0	0	161	0	0
Fullerton	0	1	0	0	366	0	0
Coyote	0	4	2	695	195	0	0
Santa Fe Springs	1	5	6	3,811	458	0	1
Montebello	0	0	0	0	165	0	0
Richfield	0	3	0	0	171	0	5
Huntington Beach	3	4	0	0	398	2	4
Long Beach	23	88	13	6,506	848	0	1
Torrance	0	0	0	0	538	0	2
Dominguez	0	2	0	0	63	0	0
Rosecrans	1	4	1	298	106	0	1
Inglewood	0	0	0	0	218	0	0
Newport	0	0	0	0	3	0	0
Seal Beach	1	1	0	0	132	0	1
Potrero	5	17	1	425	12	1	1
Lawndale	0	0	0	0	8	0	0
Playa Del Rey	29	39	7	8,180	15	0	0
Miscellaneous drilling	8	172	0	0	0	3	0
July	93	435	47	33,586	9,440	14	54
June	80	410	52	42,522	9,446	12	25
Increase	13	25	*5	*8,936	*6	2	29
Average for year 1929	109	610	76	100,625	10,550	26	18
Average for year 1928	107	520	59	56,802	10,823	15	25
Average for year 1927	97	404	75	39,992	11,276	23	21
Average for year 1926	95	422	76	32,635	11,288	24	17
Average for year 1925	105	417	79	42,247	11,393	28	12

*Decrease.

WILDCAT OPERATIONS IN LOUISIANA-ARKANSAS

(Continued from Page 54)

CALDWELL PARISH

Hudson et al's No. 1 Burton, Sec. 35-12-2e ..... Began drlg. Aug. 21; cmtd. 10-in. 110 ft.; S.D. for water.

CATAHOULA PARISH

La. G. & F. Co.'s No. 1 Tensas Delta Land Co., 660 ft. N, 1,318 ft. E, SW cor., Sec. 23-6-5 ..... Began drlg. Aug. 15; drlg. 172 ft.

CLAIBORNE PARISH

Baird Bros. et al's No. 1 Whittaker, 600 ft. N, 400 ft. W, SE cor. NE, Sec. 30-20-7 ..... Began drlg. Aug. 20; cmtd. 10-in. 110 ft; drlg. 770 ft.

El Dorado Chief Oil Co.'s No. 1 Dance, C SW NE, Sec. 27-20-7 ..... S.D. 2,240 ft.

Triangle Drlg. Co.'s No. 1 Hodges et al, 660 ft. S, 660 ft. E, NW cor. NW SW, Sec. 6-19-5 ..... Drlg. 3,890 ft.

CONCORDIA PARISH

A. C. Glassell's No. 1 Pittsfield Plantation, N 9°, E 1,320 ft., SW cor., Sec. 41-8-10 ..... Blew out between 1,392-1,450 ft.; estimated 1,000,000 ft. gas; bridged; recmtd. 8¼-in. 1,370 ft.; S.D.; T.D. 1,453 ft.

Joe Marr et al's No. 1 Maxwell, C. Sec. 35-3n-8e ..... 8-in. stuck at 1,300 ft.; T.D. 2,820 ft.

DE SOTO PARISH

Joe Burnham et al's No. 1 Mary Hood, 320 ft. W, 201 ft. S, NE cor. SE SE NE, Sec. 3-11-14 ..... Cmtd. 6⅝-in. 2,290 ft; sand 2,352-60 ft; bailing 500 ft. off bottom; showing oil.

J. W. Clark's No. 1 Tidwell, NW cor. NW, Sec. 22-13-14 .. Rig up.

Gulf Ref. Co.'s No. 1 Dry, 2,390 ft. N, 200 ft. E, SW cor., Sec. 14-11-15 ..... Gas blowout 3,056 ft; drlg. 3,148 ft.

S. A. Guy's No. 1 Dowling Bros., 469 ft. E, 382 ft. S, NW cor. NE, Sec. 31-14-14 ..... Derrick.

Bud Harrell's No. 1 Horton, 450 ft. E, 150 ft. N, SW cor., Sec. 4-11-11 ..... S.D. 1,060 ft.

Michlouzanna O. & G. Co.'s No. 1 Payne, 410 ft. S, 398 ft. E, NW cor., Sec. 12-11-16 ..... S.D. 2,600 ft.

Odell & Lawton's No. 1 Tidwell-Tull, 300 ft. N, 600 ft. E, SW cor. NW, Sec. 11-13-14 ..... S.W; show gas 3,004 ft; cmtd. bottom.

Pelham & Bunby's No. 1 Rhodes, C S½ SE, Sec. 32-13-14 ..... D.S. test 2,817-92 ft.; showed oil; 15 ft. broken lime 2,877-92 ft.; ft; cmtd. 6⅝-in. 2,800 ft; W.O. 2,892 ft.

Philp et al's No. 1 Talbot, 220 ft. S, 730 ft. W, NE cor. NW NE, Sec. 9-13-13 ..... Rig up.

R. O. Roy's No. 1 Nelson, 660 ft. S, 660 ft. E, NW cor., Sec. 36-15-13 ..... S.W; W.O. 2,700 ft.

R. O. Roy's No. 1 Wilcox, 660 ft. S, 660 ft. E, NW cor., Sec. 35-15-13 ..... Began drlg. Aug. 10; drlg. 900 ft.

JACKSON PARISH

El Dorado Chief O. & G. Co.'s No. 1 Sou. Advance Paper Bag Co., 225 ft. N, 275 ft. E, SW cor. SW NE, Sec. 35-15-4 ..... S.D. 1,400 ft.

LINCOLN PARISH

Ark. Fuel Oil Co.'s No. 1 Lewis & Co., 300 ft. N, 300 ft. W, SE cor. NW SE, Sec. 26-20-4 ..... Cmtd. 6⅝-in. 4,237 ft.; 1,000 ft. S.W. in hole; plugged back to 4,256 ft.

MOREHOUSE PARISH

Pelican Nat. Gas Co.'s No. 1 Tensas Delta Land Co., 1,320 ft. N, 660 ft. E, NW cor., Sec. 17-18-6 ..... Began drlg. Aug. 25; drlg. 140 ft.

NATCHITOCHES PARISH

W. M. Coats' No. 1 Collins, 730 ft. N, 50 ft. E, C, Sec. 28-9-10 ..... Cmtd. 8⅝-in. 2,224 ft.; T.D. 2,270 ft.

J. W. Cooper et al's No. 1 Cooper, NW SW, Sec. 35-11-10 Drlg. 600 ft.

S. D. McDaniel's No. 2 Clark & Morse, 800 ft. E, 350 ft. N, C, Sec. 23-5-6 ..... Tested 1,000,000 ft. gas and S.W. 3 ft.; S.D. for orders; T.D. 2,536 ft.

Robeline O. & G. Co.'s No. 1 Winn, 558 ft. N, 348 ft. E, SW cor. SE, Sec. 7-8-9 ..... S.D. 1,600 ft.

RAPIDES PARISH

Ayers Bros.' No. 1 Wickliff, 2,790 ft. N, 150 ft. E, SW cor., Sec. 9-5n-2e ..... S.D. 3,550 ft. in sandy lime.

RED RIVER PARISH

E. C. Lucas' No. 1 La. Pecan Co., Sec. 26-13-11 ..... Bailed down 1,000 ft.; blew in estimated 2,000,000 ft. gas and show oil; 17-ft. sand 2,476 ft.; testing.

Lucky Strike Oil Co.'s No. 1 Chaffraix, 200 ft. S, 200 ft. E, C, Sec. 33-12-10 ..... D.S. test 1,044 ft. dry; drlg. 1,100 ft.

Geo. L. Pace et al's No. 1 Clarkson, 200 ft. S, 200 ft. E, NW cor. NE, Sec. 30-12-9 ..... Drlg. 2,680 ft.

RICHLAND PARISH

Austin & McDonald's No. 1 Hunt, 594 ft. N, 660 ft. E, SW cor., Sec. 13-17-5 ..... Cmtd. 8-in. 921 ft.

W. C. Feazel's No. 1 Landrum, 620 ft. N, 4,573 ft. E, SW cor., Sec. 6-16-7 ..... Derrick.

Island Gas Co.'s No. 1 Noe, 1,902 ft. N, 660 ft. W, SE cor., Sec. 3-16-5 ..... Cmtd. 12-in. 183 ft., 8-in. 857 ft

Palmer Corp.'s No. 11 Rhymes England Planting Co., 2,033 ft. W, 660 ft. S, NE cor. NE, Sec. 12-16-5 ..... Location.

SABINE PARISH

Ark.-La. P. L. Co.'s No. 1 Whitney, 660 ft. S, 660 ft. E, C, Sec. 28-10-14 ..... Coring 3,144 ft.

Boone, trustee's No. 1 J. B. Hill, NE, Sec. 4-6-11 ..... (No check); derrick.

LeGrand Oil Co., Inc.'s No. 1 J. W. Hale, 200 ft. N, 200 ft. E, SW cor. NE NW, Sec. 1-7-13 ..... Location.

Lohman & Walker's No. 1 Hubley, 330 ft. N, 330 ft. W, SE cor. SE NE, Sec. 21-7-11 ..... Cmtd. 8-in. 1,235 ft; 2 ft. sand; T.D. 1,356 ft.

Lohman et al's No. 1 Wyatt Lbr. Co., 150 ft. S, 330 ft. E, NW cor. NE SW, Sec. 18-4-11 ..... Rig up.

Longoria et al's No. 1 Belton, 330 ft. S, 330 ft. E, C NE, Sec. 31-9-13 ..... Rig up.

Magnolia Pet. Co.'s No. 1 Glauque, 484 ft. N, 390 ft. E, SW cor. NW SW, Sec. 26-7-14 ..... Sidetracking 12½-in. csg. shoe; drlg. 1,634 ft; old T.D. 2,200 ft.

McDaniels & Lieber's No. 2 Batson, 480 ft. S, 220 ft. E, NW cor. SW SE, Sec. 16-8-12 ..... Drlg. 1,008 ft.

Paramount O. & G. Co.'s No. 1 Woolems, 330 ft. N, 330 ft. W, SE cor. NE NW, Sec. 11-6-12 ..... S.D. 2,225 ft.

Pelican Nat. Gas Co.'s No. 3 Sabine Lbr. Co., 200 ft. S, 200 ft. W, NE cor. SE NW, Sec. 6-7-11 ..... Bailed dry 2,337 ft; dry 2,408 ft; arranging to retest 2,638 ft.

Pelican Nat. Gas Co.'s No. 4 La. Long Leaf Lbr. Co., 300 ft. S, 300 ft. E, NW cor. NW SW, Sec. 4-7-11 .... Began drlg. Aug. 20; cmtd. 12½-in 100 ft; drlg. 610 ft.

D. H. Riddick's No. 1 Scretchfield, 400 ft. E, 400 ft. N, SW cor. NW SE, Sec. 18-9-12 ..... S.D. 3,280 ft.

H. T. Stacey et al's No. 1 Polly, NE cor. NE NE, Sec. 18-8-12 ..... Rig up.

TENSAS PARISH

Stovall Drlg. Co.'s No. 1 Miller, NE SW, Sec. 18-10-10 .... Drlg. 960 ft.

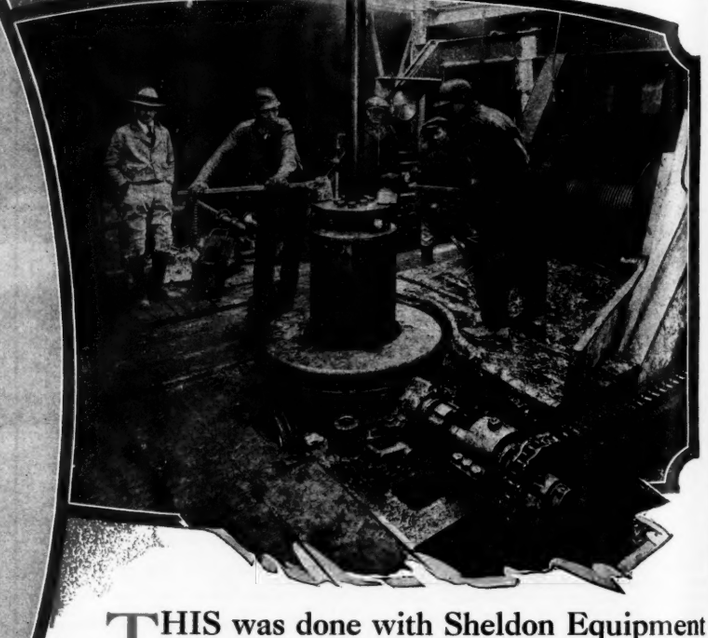
A. R. Willis et al's No. 1 Currey, 1,320 ft. S, 1,320 ft. E, NW cor., Sec. 39-11-12 ..... S.D. 2,300 ft.

WEBSTER PARISH

Coyle, trustee's No. 1 Frazer, 200 ft. N, 200 ft. E, SW cor. NE SE, Sec. 27-23-11 ..... Location.

(Continued on Page 159)

Could you drill out a bridge against 2000 lb. using your



Mills City, Well No. 1, Turner Valley, Calgary, Canada. Drilling against rock pressure of 1,500 pounds with oil circulation.

THIS was done with Sheldon Equipment on Royalite No. 11 near Calgary.

The following Sheldon Equipment was used and made possible the safe completion of that job:

- Sheldon-Burden Type HR Hydraulic-Feed Rotary Table
- Sheldon-Burden Stuffing Box
- Drill Pipe equipped with Sheldon-Burden Type Flush-Joint Tool Joints
- Sheldon-Burden Back-Pressure Valve
- Sheldon-Burden Snubbing Equipment

After drilling out the bridge, the drill pipe was safely snubbed out of the hole and the

SHELDON MACHINERY CORPORATION SMC NEW YORK

SHELDON
HYDRAULIC FEED

ROCKY MOUNTAIN AREA

(Continued from Page 61)

at 3,180 feet. The elevation is 3,657 feet. Same company's No. 3 McKinley, SE cor., Section 19-18-38, is still a location, and its No. 4 McKinley, SE cor. SW, Section 19-18-38, is drilling at 3,320 feet in anhydrite and lime. Last named topped the brown lime at 2,810 feet, had the first gas at 2,825 feet and the first oil at 3,218-35 feet. Its elevation is 3,659 feet. Shell's No. 5 McKinley, NW cor. SE, Section 19-18-38, is drilling at 2,825 feet in lime, and its No. 6 McKinley, NE cor. SW, Section 19-18-38, cemented the 9⅝-inch at 2,750 feet. Its No. 7 McKinley, NW cor. SW, Section 19-18-38, is drilling at 2,774 feet in anhydrite. The 9⅝-inch was cemented at 1,449 feet.

Skelly Oil Co.'s No. 1 Fowler, NW cor., Section 31-18-38, is drilling at 3,232 feet in anhydrite and lime. It topped the brown lime at 2,820 feet, had the first gas at 2,826 feet and the first oil at 3,210 feet. Its elevation is 3,650 feet.

Sun Oil Co.'s No. 2 McKinley, C SE NE, Section 5-19-38, is a rig.

Texas Production Co.'s No. 2 McKinley, C NE SE, Section 5-19-38, is a rig, and its No. 2-C State, SE cor. NE, Section 25-18-37, is rigging up rotary. Same company's No. 1 McKinley, NE NW SW, Section 4-19-38, is rigging up rotary at 3,750 feet in anhydrite and lime. It had a hole full of sulphur water at 3,723-27 feet.

Texas Pacific Coal & Oil Co.'s No. 2-G State, NE cor. SE, Section 24-18-37, is drilling at 2,685 feet in anhydrite, which was topped at 1,450 feet.

Tidal Oil Co.'s No. 1 Hardin, SW cor. NE, Section 19-18-38, is drilling at 3,270 feet in lime and had a show of gas at 2,815 feet, and its No. 2 Grimes, SW SE NE, Section 29-18-38, cemented 9⅝-inch at 2,718 feet. Its No. 3 Grimes, NE cor. SE, Section 29-18-38, has rig on ground.

Eunice Area—Lea County

Tidal Oil Co.'s No. 1 Colman, SW cor. NE, Section 17-21-36, in the Eunice district, half a mile to the northeast of Continental Oil Co.'s No. 1 A. E. Myers, a producer, is a small well and failed to come up to expectations. At a total depth of 3,974 feet, it swabbed 120 bbls. of fluid, of which 50 per cent was water, in three hours. It then produced 115 bbls. in 12 hours. Subsequently it made 105 bbls. in 24 hours, the gravity being 31.2°. George F. Getty, Inc.'s No. 1 State, NE cor., Section 19-21-36, one fourth of a mile to the southwest of the Continental well, is showing up more favorably. It is drilling at 3,338 feet and had a show of gas at 3,127-65 feet and big gas at 3,180 feet. Ohio Oil Co.'s No. 1 State-McDonald, SW NW SW, Section 15-22-36, 5 miles to the south and a little east of these operations, cemented the casing on top of a sand at 3,645 feet, drilled out plug and bailed hole. It gauged 30,000,000 feet of gas in 24 hours. Continental's No. 1 William Meyers, SW cor. NW, Section 28-22-36, is sidetracking at a total depth of 3,670 feet.

Jal Area—Lea County

Midwest Refining Co.'s No. 19 Farnsworth, NW SW SW, Section 14-26-37, is drilling at 3,240 feet in lime.

Lovington Area—Lea County

Gault, Brown and others' No. 1 State, center of north line between Sections 8 and 9-15-35, has changed location to SW NW NW, Section 9-15-35, to overcome difficulty in describing same.

Cooper Area—Lea County

Texas Pacific Coal & Oil Co. is going back into its No. 1 State, SE cor. SW, Section 22-23-36, to drill it deeper. Last June it was completed at 3,668 feet after plugging back from 3,995 feet where it had sulphur water. It is drilling plug at 3,930 feet. After plugging back it made 15,000,000 feet of gas with 1,350 pounds pressure.

Eddy County

Flynn, Welch & Yates' No. 2 Stevens, NW NE SW, Section 13-17-30, Maljamar area, is drilling at 3,424 feet with a hole full of oil from a break in the lime at 3,414 feet. Lockhart & Co.'s No. 2-X Parke, NE NW NW, Section 23-17-30, is drilling at 3,070 feet with considerable oil in the hole. R. D. Compton's No. 3 Brainard, SW SE SE, Section 5-18-27, Artesia district, is running the 8¼-inch to shut off water at 741-42 feet.

COLORADO

The signing of a contract between the Meeker Dome Association and the Ohio Oil Co., reported last week, whereby the Ohio company will undertake a test to the granite on the Meeker Dome in Rio Blanco County, western Colorado, the coming year, again calls attention to the possibilities in the Pennsylvanian formation in this area. The Meeker Dome well will test the Pennsylvanian, the Madison lime and all possible horizons in a 6,000-foot test. The only operation in northwestern Colorado which has the sections mentioned as the objective and which is rated as one of the most important wildcats in the State, as it is the first to be drilled below the Sundance, is S. H. Keoughan's No. 1 State, NW SW SW Section 16-4n-101, in Moffat County, on the Skull Creek, or Midland Ridge structure. This well starts in the Weber sandstone, which generally is correlated with the Tensleep of Wyoming. Mr. Keoughan, however, doubts the interpretation so far as it applies to the Skull Creek area. The well is drilling at 2,220 feet in shale after setting the 8¼-inch at 2,160 feet. It has had some very encouraging shows of oil and gas. Samples of the black shale when rubbed together give off a distinct gasoline odor. The shale will burn readily when thrown on a fire and oil will ooze out. It is estimated that the hole has about 400 feet to go to reach the first objective in the Pennsylvanian, a 35-foot sand at the outcrop. Below that is another sand which measures 57 feet in thickness. The hole had 1,100 feet of water at 1,350 feet. At 1,615 feet it had considerable gas which burned several feet over the top of the casing after making its way through 1,100 feet of water. At 1,817 feet there was a good show of oil. The drill, according to Mr. Keoughan, already has disclosed definitely that the Pennsylvanian section is in place. The outcome in this test undoubtedly will have an important bearing on the question of deep testing at Moffat, Iles, Thornburg and other structures in that area which have never been drilled below the Triassic.

Douglas County

Perry Park Oil Co.'s No. 1 Cannon, SE SW, Section 11-9s-65, has been delayed below 1,500 feet with casing trouble, but has this about straightened up and is ready to resume making hole.

Arapahoe County

J. W. Merritt and others' No. 1 Union Pacific, SE cor. NW, Section 17-5s-64, Watkins area, is drilling at 720 feet in shale and carrying the 12½-inch. The first objective, a sand in the Fox Hills, is expected at around 1,300 feet. MacDeb Drilling Co.'s No. 1 Fitzsimmons, NE, Section 7-4s-66, which has been held up at 5,692 feet for several weeks with casing trouble is still shut down.

Washington County

Middlemist Oil Co.'s No. 1 Middlemist, SE SW SE, Section 14-4s-56, which landed 15½-inch at 1,030 feet some time ago but did not cement it, has cemented that string at the depth named.

Morgan County

Indian Territory Illuminating Oil Co.'s No. 1 State, NE NE, Section 16-1n-57, Fort Morgan anticline, has been idle for several days, but is resuming at 2,970 feet. The Hygiene sand has not been encountered. Platte Valley Petroleum Co.'s No. 1 Patterson, 25 miles to the west, cut a sand at 2,185-2,485 feet which is supposed to have been the Hygiene.

Larimer County

Continental Oil Co.'s No. 1 Hoffman, SW NE, Section 23-4n-70, Deininger Dome, cemented 10-inch at 487 feet and is waiting. Same company's No. 3 Scott, SW SE, Section 6-9-68, Wellington Dome, is bottomed at 4,585 feet in shale between the Dakota and Lakota and cleaning out and underreaming. The Lakota is expected at 4,615 feet. C. Leonard Smith's No. 1 State, SE cor., Section 36-12n-70, Sand Creek, is drilling at 125 feet in very hard lime.

Jefferson County

Ruby Hill Oil & Gas Co.'s No. 1 Braden, SE cor., Section 24-4s-69, has cleared up its casing trouble and is making new hole at 3,625 feet. It is carrying 6⅝-inch close behind the tools and small shows of gas continue.

Huerfano County

Midland Petroleum Co.'s No. 1 Campbell, NE SE, Section 4-29-69, is drilling below 500 feet in the Pierre shale. The Pierre was topped at 60 feet. This is to be a Dakota test. Ojo Development Co.'s No. 1, Section 5-29-69, which is exploring the area in the immediate vicinity of the Ojo oil seep, is drilling at 550 feet and will go to 600 feet before starting another hole.

Archuleta County

Standard Oil Co. of Colorado's No. 1 Fitzhugh, SE SW, Section 34-33-1e, Chromo Dome, is drilling below 400 feet. Scouts who have visited this well say the recent oil show in the shale did not amount to more than 5 gallons at any one time. The company is not one of the so-called Standard Oil group, but a local company. Its No. 2, NW NE SW, of the same section, is reported to have shut down to change location.

La Plata County

The E. B. Klem Petroleum Co. has been organized as successor to the Detroit Oil Association, and is preparing to resume in its No. 1 Olbert, NW SW, Section 9-35-12, which has been standing at 2,623 feet supposedly on top of the Sundance. Two strings of 2,700 feet each of 4⅞-inch and 3½-inch special casing have been shipped from Pittsburg. McGarr Petroleum Co.'s No. 1, SE SE, Section 27-33-12, is reported shut down at 2,160 feet.

Dolores County

Transcontinental Oil Co.'s No. 1 Glade, C NW, Section 30-41-16, is bottomed at 6,766 feet in shale and cementing to stop caving.

Mesa County

Argo Oil Co.'s No. 1 Hoel, NE cor., Section 23-8s-104, High Line, is having more grief. After sidetracking bit it was found it had dropped to the bottom at 2,760 feet. Sidetracking bit was then lost. The 8¼-inch will be broken off and hole cemented to again sidetrack with 8-inch bit. Plan is to land the 8¼-inch on top of the Dakota at 2,740 feet.

Garfield County

Fulton Petroleum Co.'s No. 1 Smith, NE NW, Section 8-8s-102, Garmesa, is drilling at 1,510 feet.

Routt County

Texas Production Co.'s No. 4 Carstarphen, NE NW NW, Section 5-6n-86, Tow Creek, is spudding at 90 feet, and its No. 7 Quaintance-Hocking, NE SE, Section 18-6-86, is standing at 3,640 feet.

Moffat County

Texas Production Co.'s No. 12 Knowlton, SW SE, Section 33-5n-91, Moffat Dome, is standing at 4,524 feet after coring into the Sundance. Midwest Refining Co.'s No. 24 Hannewalt, SE SE, Section 4-6n-92, Bell Rock, is still fishing for tools at 2,936 feet. Mountain Fuel Supply Co.'s No. 1 Lasher, NW NE NE, Section 25-12n-101, Bartram Dome, was completed at 2,160 feet after plugging back from 2,756 feet, as a gas well. It gauged 5,000,000 feet, open flow. Same company's No. 1 Musser, C NE, Section 5-11n-97, Powder Wash, is drilling at 1,862 feet.

UTAH

The Cisco Springs Syndicate's No. 1 Moss, SE cor. SW, Section 9-20-23, Cisco district, Grand County, is resuming at 2,040 feet after being shut down for some time. It was delayed first by a tedious fishing job and then by broken equipment. The hole is supposed to be on top of the Dakota and at 2,010 feet had a show of gas. Diamond Oil Co.'s No. 4, SE NW, Section 16-8s-5e, Utah County, is drilling at around 2,800 feet.

IDAHO

Grand Teton Oil Co.'s No. 1 Blevins, SW SE, Section 33-5n-44, Teton County, is drilling at 3,280 feet in a white sandstone so hard it is necessary to sharpen the bit every 4 feet. Christian Vrang, consulting geologist for the company, is on his way to the Midwest's Grays River test to make some geological correlations to provide knowledge of formations which likely will be encountered upon drilling a little deeper. Same company's No. 1 Bevan, Section 28-5-44, is lowering pipe to fish for tools. It is below 1,800 feet.

WYOMING

Midway Dome

The results this week in the deep test being drilled by the Midwest Refining Co. on the Midway Dome north of Casper in its No. 11 Middy, C NE NE, Section 23-35-97, definitely proves that structure for commercial production and gives Wyoming another light oil field. There were many axnious hours during the past two weeks in which the fate of the well was in the balance and there were fears it would not come up to earlier expectations. The well has been standing at 5,187 feet for the past two weeks with oil in the hole from the second Wall Creek, topped at 5,157 feet, at which depth the 9⅝-inch casing was set. Bailing and swabbing indicated a well of 250 to 300 bbls. per day capacity, though these tests were not very satisfactory and left the final results still in doubt. This week the hole was deepened to 5,215 feet and still was in sand when drilling stopped. About one bailerful of water made its appearance and it was decided not to go deeper at this time. However, there proved to be 49 feet of saturated sand. Tuesday night the crew started to run the bailer and the agitation caused the well to break loose and shoot oil 20 feet over the top of the 122-foot derrick. It was then shut in and allowed to stand overnight. When it was opened Wednesday morning it did not flow. The sand was cored with a 9-inch bit and as the hole is nearly a mile in depth, it is apparent that a heavy pressure is necessary to force the oil to the top. Company officials, who have been conservative at all times in regard to the well, estimate that if tubed it would make several hundred barrels. Other estimates place the probable output at 800 to 1,000 bbls. In any event, it definitely proves Midway Dome for commercial production after more than $600,000 had been expended in exploration work by several companies without getting any results. The field is favorably located, being only 10 miles north of Casper and closer to the big tank farm across the river from Casper. Preparations are being made to tube the well with the expectation that it will flow. Four additional tanks are being moved down from Salt Creek which will provide 4,000 bbls. of storage for a test.

Southeast of Midway lie the North Geary and Geary Domes, all three of which are controlled by the same interests under an agreement between owners of leases and permits, operators and the Government for a co-operative group development and for unit operation. Under the agreement the Department of the Interior authorized the drilling of one test well on each of the three structures on government land at this time. However, there is some deeded and state land on the structures. Tests on the other two structures probably will be started at an early date. The second Wall Creek in which the production was found at Midway is only the first of the several probable horizons. The Lakota and Sundance, both of which are productive at Salt Creek, are beneath the Wall Creek, while there may be a third Wall Creek in place. There are approximately 23,000 acres within the closing contours of the three structures. The Midway-Geary Syndicate (H. Leslie Parker and associates) hold a 25 per cent working interest; the Midwest Refining Co. has a 37½ per cent interest and management of operations and the remaining 37½ per cent interest is held by the Salt Creek Producers, Mountain Producers, Wyoming Associated and Midwest Oil companies.

Salt Creek

Concurrent with the proving of the Midway Dome, the test of all possible horizons in Salt Creek in the Midwest Refining Co.'s No. 29DT, NW Section 35-40-79, reached the objective, the granite, at 5,420 feet. It will be plugged back to save the production in the Tensleep, which was topped at 3,765 feet, and which made as high as 1,850 bbls. a day while being tested. The Tensleep adds a new production horizon to Salt Creek though it is not expected to extend

over a very large area as compared with second Wall Creek. Neither is the oil as good a grade. It tested 24.7 degrees gravity and showed a content of 13½ per cent gasoline and 27½ per cent kerosene. The well went through the Amsden, Madison and Deadwood, but found only water in those formations.

Big Sand Draw

The several attempts over a period of 10 years to drill through the big gas sands in the Frontier formation on the Big Sand Draw structure in Fremont County and test the lower horizons has been successful in the Producers & Refiners Corp.'s No. 10, NW cor., Section 14-32-95. The hole was drilled with a heavy duty rotary and successfully drilled through the several gas sands in the Frontier. It reached the Muddy, or first Dakota, at 3,457 feet. The 10-inch was cemented at 3,426 feet. After drilling out the plug, the hole was deepened to 3,472 feet and it made 7,000,000 feet of gas through the drill stem while this was in progress. There was no way to take the pressure. It is estimated that the Muddy gas on an open flow basis was around 40,000,000 feet a day. The rotary mudded this off as it went down and the hole then was cored from 3,472-3,509 feet. It is reported unofficially that when coring stopped the hole was spraying oil. Reaming below the 10-inch is in progress at 3,472 feet. There were shows of oil above the present total depth and the indications are favorable for either oil or big gas in the deeper formations which include the Dakota, Lakota, Morrison and Sundance sands. Big Sand Draw has produced more than 20,000,000,000 feet of gas from the upper Frontier with shows of oil in an edge well. The gas is supplied to Riverton, Hudson and Lander with a supplemental supply to Casper. It is estimated that there are 1,800 acres in the closing contour with a closure of probably 1,300 feet. It has a developed gas capacity of 250,000,000 feet daily.

Fremont County

Outside of Big Sand Draw active operations include the following:

The Producers & Refiners' No. 2, SE NW, Section 33-34-92, Muskrat Dome, is drilling at 4,112 feet in gray shale. Texas Production Co.'s No. 1 State, SW SW, Section 36-34-95, Alkali Butte, is bottomed at 4,472 feet with the 6⅝-inch frozen at 4,363 feet. It was being lowered to shut off gas in the Dakota and drill deeper. The 13 feet of sand in the Dakota produced around 12,500,000 feet of gas and sprayed 20 to 25 bbls. of live oil per day. Kinney-Coastal Oil Co.'s No. 1 Dykeman, SE SW, Section 22-3n-1w, Pilot Butte, is coring in shale at 4,030 feet.

Converse County

Continental Oil Co.'s No. 50 Whiteside, NW SW SW, Section 9-33-76, Big Muddy, is rigging up to drill deeper from 3,207 feet for a test of horizons below the Wall Creek.

Weston County

The Osage Field in Weston County, in the northeastern part of the State, has staged a real comeback the past few months and another good completion was reported this week in Straitiff & Curtis' No. 3 Updike, SW SE NE, Section 14-46-64, which flowed 200 bbls. in 14 hours from sand at 1,635-46 feet. This location is just east of the Lambie Oil Co.'s No. 2 Bock, CSL SW NE, Section 14-46-64, which last week was reported flowing 700 bbls. first 12 hours from one screw in the sand at 1,686 feet. The hole was deepened to 1,698 feet and is flowing 20 bbls. per hour one week after completion. Pipe line runs from the field last week, including deliveries to refineries, averaged 1,700 bbls. per day. The Dexter Oil Co.'s No. 1, NE Section 1-45-64, to the north of the big producers, is rigging up. Bert Higgins' No. 3, NE NW SW, Section 4-46-63, is drilling at 210 feet, and Dornacher and the Osage Trust Co.'s No. 3, C SE SE, Section 12-46-64, is a location. Lambie Oil Co.'s No. 3 Bock, SW cor. NE, Section 14-46-64, just to the west of its recent completion, is rigging up, and the Osage Trust Co.'s No. 8, NW cor. SE, Section 14-46-64, is rigging. Henderson, Garbereck and others' No. 1 Bock, SW cor., Section 2-46-64, is fishing below 1,200 feet, and James McCullough's No. 2 Logan McCullough, NE NE, Section 23-46-64, is drilling at 200 feet. Hugh Updike & Sons' No. 2, SW NE NE, Section 14-46-64, is rigging up, and Osage Trust Co.'s No. 6, SW cor. SE, Section 14-46-64, is drilling at 1,260 feet.

Carbon County

Producers & Refiners Corp.'s No. 4, Section 7-26-89, Wertz Dome, is shut down at 3,386 feet. It recently built rig to drill deeper, but had a bad fishing job at the start. Same company's No. 3, SE NW, Section 2-19-88, Hatfield, is drilling at 4,179 feet in pink shale.

Natrona County

Summitt Oil Co.'s No. 1, NW NW, Section 21-33-80, North Platte, is drilling at 505 feet. Chicago Oil Co.'s No. 3, SW Section 1-33-83, Poison Spider, has completed fishing job at 3,565 feet and is ready to resume. It is bottomed 317 feet in the Deadwood formation.

Sublet County

The Ogden-La Barge Oil Co.'s No. 1, Lot 2, Section 18-27-113, northeast La Barge Field, is drilling at 5,900 feet in the base of the Hilliard formation. The objective is the Frontier. This is the deepest test drilled in that area.

The Jensen Coal Products Co., of Salt Lake City, put into operation the past week five trucks hauling oil from the La Barge Field to Frontier, where it has storage tanks and from which point it is shipped to Ogden by rail for the refinery the company built last year at that point. The tanks have a capacity of 225 bbls., but it is understood the company has found difficulty in obtaining that quantity as most of the operators are under contract for the sale of their crude to the Utah Oil Refining Co. The Midwest Refining Co. owns the gathering system and pipe line to Opal and since its completion very little trucking of oil has taken place. The Jensen company holds patents for a process for low temperature carbonization of coal and the refinery at Ogden was built to operate in part on petroleum distillates obtained from the carbonization plants.

Lincoln County

Midwest Refining Co.'s No. 1 Larcher, SE SE, Section 25-37-117, Little Grays River, is shut down at 2,310 feet in red mud to run 6⅝-inch casing to shut off water. Mountain Oil Corp.'s No. 1 State, NE cor., Section 36-25-115, Wyoming structure, has straightened hole to 350 feet and has landed 20-inch at 324 feet and is cleaning out.

Sweetwater County

Mountain Fuel Supply Co.'s No. 2 State, Section 16-16-104, South Baxter Basin, was completed at 2,190 feet with an open flow of 5,000,000 feet of gas per day. Same company's No. 2 Union Pacific, NW NE, Section 13-16-104, is building rig. Wyoming-California Petroleum Co.'s No. 1, Section 23-17-104, joint with the Montocal Oil Co., is drilling at 3,000 feet with rotary and will go to the Sundance. Mountain Fuel Supply Co.'s No. 1 Union Pacific, NW NE, Section 13-19-104, North Baxter Basin, is bottomed at 3,210 feet and fishing for underreamer lug. At 3,157 feet it had considerable gas in the Morrison. The Dakota carried water. Same company's No. 1 Cappers, SW NE, Section 2-19-104, is running the 8⅝-inch at 3,00 feet. The Hidden Treasure Oil Co.'s No. 1, SW cor., Section 32-21-103, is bottomed at 2,690 feet and fishing for underreamer lug.

Niobrara County

Ohio Oil Co.'s No. 4 Converse Sheep, SW SE, Section 32-36-65, Lance Creek, is drilling at 3,117 feet, and the Bowser-Satterfield Syndicate's No. 1, NE NW, Section 7-35-62, Sage Creek, set the 15½-inch at 175 feet. Argo Oil Co.'s No. 7 Wehopeso, SW NW, Section 19-39-60, Mule Creek, is bottomed at 3,070 feet in the top of the Amsden and cementing cave.

Park County

Midwest Refining Co.'s No. 31 Rosenberg, SW SE, Section 24-58-98, Frannie Dome, is drilling at 2,284 feet in gray sandy shale with the 10¾-inch at 2,241 feet, and its No. 31 Frannie Oil, SW NE, Section 25-58-98, is drilling at 2,899 feet in red shale. California Exploration Co.'s No. 2, NW NE, Section 14-48-102, Pitchfork, is bottomed at 3,904 feet, with the 6¼-inch at 3,371 feet, and is pulling tubing. Continental Oil Co.'s No. 26, Elk-2, SE NE, Section 24-58-100, Elk Basin, is drilling at 2,364 feet, and the Texas Production Co.'s No. 1 Freeman, NW SE, Section 30-51-100, Oregon Basin, is drilling at 3,720 feet. Cody Petroleum Co.'s No. 1 Danker, SW cor., Section 22-57-98, Big Polecat, is skidding rig. It will drill a new hole with present equipment to the first water sand, set the 15½-inch and shut down for the winter. In the spring a heavy duty rotary will be moved in. Resolute Oil Co.'s No. 1, SW NE, Section 17-57-101, Badger Basin, is drilling at 6,340 feet.

Big Horn County

Ohio Oil Co.'s No. 1 Pryde, Section 25-56-97, Byron, is drilling at 1,965 feet with rotary, and its No. 1 Easton, NW NW, Section 33-56-97, Garland Dome, is standing at 3,887 feet with the 7⅝-inch cemented. Producers & Refiners' No. 3, NW NW, Section 24-56-98, Garland, is still bottomed at 4,234 feet and has repaired leak in cellar which permitted gas to escape.

Hot Springs County

Midwest Refining Co.'s No. 8 Weeks, NW SE, Section 6-44-98, Wagonhound, is drilling at 2,885 feet in hard reddish brown sand. The top of the Chugwater was at 2,885 feet.

Rocky Mountain Production

Daily average pipe line runs from the various pools in the Rocky Mountain area for the week ending August 30:

WYOMING	
Salt Creek	29,000
Frannie	110
Big Muddy	2,020
Oregon Basin	3,000
Dutton	120
Elk Basin	760
Byron	10
Warm Springs	100
Lovell	20
Ferris	40
Grass Creek	2,080
Hamilton	970
LaBarge	1,950
Lance Creek	120
Lost Soldier	3,680
Osage	1,390
Poison Spider	260
Rock River	2,100
Simpson Ridge	50
Teapot Dome	20
Dallas-Derby	230
Hudson	300
South Casper Creek	850
Cody	.....
Total	49,180
MONTANA	
Cat Creek	1,140
Kevin-Sunburst	5,850
Pondera	2,370
Lake Basin	50
Border	500
Total	9,910
COLORADO	
Moffat	1,105
Fort Collins	1,290
Florence	418
Iles	1,130
Tow Creek	360
Boulder	25
Rangley	50
Total	4,378
NEW MEXICO	
Hogback	430
Rattlesnake	1,283
Table Mesa	94
Artesia	678
Cap Rock (Maljamar)	851
Jal	1,350
Hobbs High	41,300
Lea City	5,300
Miscellaneous (Lea County)	320
Getty	375
Total	51,981
Grand total	115,449
Week ending August 23	115,403
Difference	46

MONTANA

The Ohio Oil Co. has drilled into the Dakota sand in its No. 2 well on the Dry Creek structure in southern Montana and appears to have a good light oil producer. At last report the well was 5,437 feet with 3,000 feet of oil standing in the hole. The sand appears to be very hard and there is a possibility it will be given a shot. Reports from Billings credited the well with a 3,000-bbl. production but the Ohio office could not confirm the report. This is the second well on the Dry Creek structure, the first being a commercial gas well connected with the Billings lime.

The Alberta Pacific's No. 1 Buckley on Section 12-37-4, Border Field, was completed this week with a production estimated at 150 bbls. The productive sand was encountered at 2,520 feet and oil rose to a depth of 1,800 feet in a short time. This well is on the south end of the Border structure. Several other wells in the Border Field are nearing completion.

The Western Natural Gas Co. is moving a rig to Section 20-37-4, in the Sweetgrass Hills, and it is understood a number of wells will be drilled in this district in hope of developing a gas producing area. The wells will be located near the new 10-inch gas line being laid north into the Hills.

The Hill-O'Neil interests have announced that another well will be started at once on their holdings in the Cut Bank area. The Michaels well completed by Hill-O'Neil several weeks ago is good for 15,000,000 feet of gas but the next well will be carried deeper in hope of finding oil. The Michaels' well is possibly 9 miles northeast of the Drumheller discovery well on the Headlight Butte structure and there is no doubt that the intervening territory will be thoroughly tested. The Texas Production Co.'s test, 3 miles north of the discovery well, is drilling at about 2,000 feet and should be completed within a week or two. This well was started by the Kootenai Oil & Gas Co. some months ago. The Glacier Oil Co. is drilling not far east of the Texas well and is down about 1,800 feet. The Vantana Oil Co.'s test, north of the Cut Bank district and directly south of the Border Field, is drilling below 1,900 feet and will be completed early in the month, barring accidents. This well is being watched with considerable interest.

The Fulton Petroleum Co. has finally spudded its test on the Milk River structure just outside the Glacier National Park. Rig for this test was erected last fall. The well will be started with a large hole and carried to 5,000 feet if necessary.

SECRETARY WILBUR CITES PRESIDENT'S OIL ORDER

WASHINGTON, D. C., Aug. 30.—Secretary Ray Lyman Wilbur's court proceedings to carry out the oil conservation policy of President Hoover have been met with the plea that no record was referred to by the secretary to indicate that the President had ever authorized such a policy. Now the secretary, through Acting Secretary John H. Edwards, asked the Supreme Court of the District of Columbia to dismiss the petition filed by Elizabeth M. Boesche of Tulsa, Okla., to compel him to issue her a prospecting permit, asserting that the President's announcement of March 12, 1929, that "there will be a complete conservation of government oil in this administration" was the public announcement of the definite policy of the administration to assist in maintaining or restoring the equlibrium of the oil markets of the country.

In the pending case, Elizabeth M. Boesche filed a petition several days ago seeking a writ of mandamus to compel the issuance of the permit. She alleged the Secretary of the Interior had no discretion in such a case. The Department of the Interior claims that the general leasing act of February 25, 1920, does give the secretary such discretionary powers.

GASOLINE FROM COAL IN AFRICA

It has been repeatedly reported that efforts are to be made to establish an oil-refining plant in the Union of South Africa, and that British capital is available for the project, which is founded on the torbanite deposits. The Union government has authorized the creation of a fuel research institute to determine the commercial possibilities of extracting oil from local coal, and it is understood experiments in the hydrogenation of coal have been carried out. The favored method is said to have been used in Germany and to have converted from 90 to 95 per cent of the crude oil into gasoline by re-hydrogenation. This would mean from 120 to 150 gallons of gasoline from each ton of the Witbank coal.

IMPORTANT TESTS IN THE VAN POOL MAY INDICATE POSSIBLE EXTENSIONS

By L. E. Bredberg

FORT WORTH, Tex., Sept. 1. — Activities in the East Central Texas district have been rather atrophied during the week, but within a few days several important tests in various parts of the Van Pool, Van Zandt County, should prove whether the pool is to be produced farther to the west, to the south, and to the east, but north of the dry hole drilled by the Humble Oil & Refining Co. on the Freeman 20-acre farm.

Many strips have been filed on within this pool, and on nearby acreage, and several independent operators are drilling on land around the pool, which was supposed to have been leased, but due to faulty titles or poor surveys allowed discrepancies, and consequent leases by other parties, therefore another suit to acquire title to 343 acres within the heart of the Van Pool, will not cause much excitement, although the Oil Well Corp. has brought such a suit against the five major companies operating in the field, and including about 200 royalty holders as codefendants. This property, or the majority of it, falls within the Mund Gross Survey, including the Shell Petroleum Corp.'s Tunnell lease, the Leonard W. and R. V. White leases, Miller and Davis and Thompson leases, on which there are about 35 producing wells.

Carroll District

The Carroll district, to the northeast of the Van Pool proper, has been completely linked to the first producing area by intervening wells, on the Pure Oil Co.'s lease on the J. R. Shivers 46-acre farm, and Humble Oil & Refining Co.'s lease on the Ruth Star Blake 201.4-acre farm, and it appears that wells to the northeast of the pool, or within this new area would be the best wells of the field, as Humble's No. 1 Ruth Star Blake and Pure's No. 1 Shivers were excellent wells, practically proving better production for the new area. The Shivers well had the largest quantity of gas yet encountered in any of the Van Pool wells, another good sign for larger wells in this direction from the pool.

The Vitek Oil Co. filed on a strip in the Pure Oil Co.'s lease on the 40-acre L. A. Smith farm, which lies between the Shivers well and the Blake well, and if drilled immediately it will connect the intervening 4,000 feet with production.

Hill & Hill are moving in machinery to their derrick for their test in the heart of the Van Pool between the Pure Oil Co.'s No. 1 Gin Lot producer and its No. 2 Cannon. The small strip filed on by these operators is just large enough to accommodate a derrick. The location is surrounded on all sides either by producers or drilling wells, therefore its completion cannot force offset locations to be drilled.

Henderson County Failure

Another interesting test of Henderson County has gone the way of the majority of wildcats. This test was drilled by Cranfill and Germany on the Clara C. Starr farm in the Guadalupe Acosta Survey, and was intensely interesting from a geological and geographical standpoint, many holding the opinion it had a good chance for production, but the Woodbine sand, which was topped at 4,461 feet and drilled to bottom of the hole at 4,503 feet, carried salt water instead of oil.

Humble Oil & Refining Co.'s No. 3-A Beard, John Trimmer Survey, on the south side of the Boggy Creek Dome, Anderson County, was completed as a dry gas well with a pressure of 1,360 pounds. The well originally was completed flowing 8 bbls. hourly for a short time. It is in sandy shale at 3,636 feet.

Humble Oil & Refining Co.'s No. 3 Gauger, same survey, was drilled into salt to a total depth and was abandoned. A location has been made for No. 2 Cook, H. B. Patton Survey, an offset to this company's No. 2 Gauger.

Kugle's (Winona Oil & Gas Co.) No. 1 Freeman, in the A. J. LeGrone Survey, about 4 miles southeast of Winona in Smith County, topped the Pecan Gap chalk at 3,040 feet, appearing to be running normal on the structure. Deep Rock Oil Co.'s No. 1 Awtry, in the Ping Survey, Titus County, is another wildcat which appears to be running normal after topping the Pecan Gap chalk at 2,253-2,398 feet.

The Humble Oil & Refining Co. is reported using a different method in seismograph shooting in that 10-inch holes from 30 to 50 feet are drilled for the charges of dynamite, this method saving approximately half on amount of dynamite used. Most charges are placed in much shallower holes than these, generally only about 10 feet deep, or less.

Freestone County Tests

The Sun Oil Co. and Simms Oil Co. have put down three core tests on their block northwest of Fairfield in Freestone County. One test was on the Riescher farm in the northwest corner of the H. Awalt Survey, and two tests were on the Hamm farm in the same survey. The deepest, on the Riescher farm, was drilled to 328 feet.

Due to the fact that only five major companies, and but six independent operating companies are drilling in the Van Pool and in the Carroll district, which lies to the northeast of the Van Pool, and because the field is young and has been held in check, with all wells flowing through tubing and choked to a minimum, proration of the two areas to 27,500 bbls. per day will not create a hardship on any producer. Instead, it will probably be a great boon to the operators in these areas for it will hold the oil in the ground while the industry is being stabilized, and perhaps until the supply is diminished to a point where prices of crude may be stimulated and increased, bringing a better price to the high gravity sweet oil from this field which is realized as one of the largest ever uncovered in Texas.

EAST CENTRAL TEXAS

Boggy Creek	3,660
Cedar Creek	45
Currie	320
Hill County	35
Mexia	4,188
Minerva	545
Nigger Creek	145
Powell	4,582
Richland	145
Thrall	40
Van	25,162
Wortham	695
Total	39,562
Week ending August 23	40,215
Decrease	653

COMPLETIONS IN EAST CENTRAL TEXAS

Week ending August 30

Anderson County

Humble Oil & Refining Co.'s No. 3 Ganger, top Pecan Gap 2,938-3,200 feet, dry and abandoned; total depth 3,761 feet.

Henderson County

Cranfill and Germany's No. 1 Clara C. Starr, Pecan Gap 2,618-2,770 feet; top Woodbine sand 4,461-4,503 feet; dry and abandoned; total depth 4,503 feet.

Navarro County

Navarro Oil Development Co.'s No. 2 W. M. Mathews, dry and abandoned; total depth 1,555 feet.

Van Zandt County

Van Zandt Oil & Development Co.'s No. 1 Sharp, Pecan Gap 2,764-2,881 feet; dry and abandoned; total depth 4,802 feet.

WARNER CLARK PROMOTED

Warner Clark, who has been general manager of the California Co., Dallas, Tex., for several years, has been promoted to assistant general manager of the Standard Oil Co. of California, the parent company, and will leave in a few days for the company's general offices at San Francisco. R. H. Morrison of the San Francisco office, succeeds Mr. Clark as manager of the California Co.'s southern district, and will be transferred from San Francisco to Dallas.

EAST CENTRAL TEXAS WILDCATS

Week Ending September 1

DELTA COUNTY

C. A. Evert's No. 1 Smith, 300 ft. N and 150 ft. W of 38-ac. tract, 3 miles NE of Cooper in J. U. Ranfro Sur. ..... Shut down 1,450 ft.

FANNIN COUNTY

North American Pet. Co.'s No. 1 Allen, 700 ft. N and 150 ft. W in N. R. Broadfoot Sur., 9 miles N of Honeygrove ..... Shut down 1,400 ft.

E. M. Rogers' No. 1 McSwain, 300 ft. S and E of Michael Daly Sur., in Juana Telgando Sur., 1½ miles NE of Lomasco ..... Shut down 1,500 ft.

HENDERSON COUNTY

H. E. Ashburn et al's No. 1 T. E. Barry, center of Barry's 59-acre tract in A. York Sur. ..... Shut down 2,510 ft.

L. G. Bradstreet's No. 1 Julia J. Shaunessy, 2,776 ft. from N and 300 ft. from W of survey or farm, John Isard Sur. ..... Drlg. 2,150 ft.

Chapman's No. 1 Cade, 1,662 ft. from N and 3,294 ft. from W of J. B. Dorsey Sur. ..... Shut down 3,199 ft.

George Pace et al's No. 1 Mrs. Sarah Anthony, 273 ft. N and 132 ft. W of SE cor. of S. Anthony 632-ac. tract, Jose W. Battvan Sur. ..... Shut down 2,730 ft.

Sunray Oil Co.'s No. 1 Davis, 600 ft. S and W of most easterly NE cor. of 164-ac. tract, Eldridge Harris Sur. ..... Drlg. 3,970 ft.

HUNT COUNTY

Branson et al's No. 1 West, 350 ft. N, 350 ft. W of W 60-ac. tract, Jas. Rooces Sur. ..... Shut down 2,770 ft.

KAUFMAN COUNTY

Shaw & Alexander's No. 1 Barrow, 2,360 ft. S and 200 ft. W of R. A. Terrell Sur., 4½ miles N or McCoy ..... Shut down 2,335 ft.

LAMAR COUNTY

Everett & Allen's No. 1 Guest, 250 ft. S and 2,046 ft. E of 100-ac. tract, L. Roberts Sur. ..... Spudded and shut down.

NAVARRO COUNTY

Killam & Phillips' No. 1 Wilson, 150 ft. S and E of 62½-ac. tract in Wm. Bridges Sur. ..... Drlg. 2,848 ft.

Young et al's No. 1 Farmer, 700 ft. from S and 400 ft. from E of 110-ac. farm in F. Finley Sur. ..... Shut down 960 ft.

RAINS COUNTY

Everett & Morrison's No. 1 Franklin, 640 ft. from S and E of 75-ac. tract in John Christian Sur., 6 miles SE of Emory ..... Spudded and shut down.

RUSK COUNTY

Clem S. Clark's No. 1 Maude R. McCafflin, 427 ft. from N, 166 ft. from W of farm, Ellie Blackburn Sur. ..... Drlg. 2,173 ft.; top Pecan Gap 2,050 ft.

Mass et al's No. 1 Mathews, 2,244 ft. from N, 4,356 ft. from E, Dalines Cartinas Sur. ..... Derrick down.

SMITH COUNTY

Owens & Sloan Oil Co.'s No. 1 Starnes, 846 ft. along W lines of John Waller Sur. from NE cor. of J. O. Dillard Sur., and 80 ft. E at right angles to W line of J. Waller Sur. ..... Drlg. 2,665 ft.

Sun Oil Co.'s No. 1 D. McGehee, 500 ft. W and 250 ft. S of SW cor. of Mrs. Julia Phillips 55-ac. tract, Thomas Quevado Sur. ..... Rig up.

Winona O. & G. Co.'s No. 1 Freeman, 150 ft. from S, W of 89-ac. tract in A. J. Legrone Sur., 4 miles SE of Winona ..... Fishing 3,120 ft.; top Pecan Gap 3,040 ft.

VAN ZANDT COUNTY

Anderson's No. 1 Sanger, 150 ft. from N and W of Humble Sanger lease in John Walling Sur. ..... Shut down 2,779 ft.

L. R. Barton's No. 1 Wamble, 300 ft. from S and W of 100-ac. tract in Pleasant Young Sur. ..... Derrick.

Broderick & Calvert's No. 1 M. F. Shirley, 150 ft. from W in C of N and S lines of 2.1-ac. strip, John Walling Sur. ..... Moving in material.

D. H. Byrd's No. 1 W. H. Mawes, 150 ft. from S and 150 ft. from W, J. Piles Sur. ..... Rig up.

E. L. Chapman's No. 1 Charles Wolverton, 215 ft. from N, 60 ft. S of NE cor. of Wolverton 10-ac. tract, William James Sur. ..... Coring 3,420 ft.

T. Daniels' No. 1 Fannie Cumbine, 185 ft. S and 175 ft. E of NW cor. 156-ac. tract, John Wright Sur ..... Shut down 2,275 ft.

Dennis Oil Co.'s No. 1 C. W. Morris, 100 ft. from N and 300 ft. from E lines of Morris 160-ac. tract in C. L. Morris Sur., 5 miles SE of Ben Wheeler ..... T. D. 3,071 ft.; will abandon.

Hartt Oil Co.'s No. 1 Dr. L. M. Cox in A. C. Night Sur., 1,785 ft. N of S line and 524 ft. E of W line.... Derrick.

H. Helms et al's No. 1 Bogue, 647 ft. W and 155 ft. S of SE cor. of J. M. Brown 70-ac. in Marshall University Sur., SE of Van ..... Rig up.

B. P. Hervey's No. 1 Foster & Smith, 150 ft. S and 150 ft. W of 104-ac. tract, Margaret Neal Sur. ..... Fishing 4,601 ft.; Woodbine 4,583 ft.

Howard & Dooley's No. 1 Elliott 188-ac. tract in W H. Bundy Sur. ..... Derrick.

Hill & Hill's No. 1 Maxfield heirs, 100 ft. NE of Consolidated's No. 1, 100 ft. NW of Cannon's No. 1, John Walling Sur. ..... Derrick.

Humble Oil & Refining Co.'s No. 2 Blake, 150 ft. N, 150 ft. W of SE cor. Carroll 98.5-ac. tract, Wm. Daniel Sur. ..... Top Woodbine sand 2,745 ft.; setting casing.

Humble Oil & Ref. Co.'s No. 1 L. A. Dowdle, 1,027 ft. N of S line and 150 ft. E of W line, William Daniel Sur.. Shut down 304 ft.

Imperator Oil Co.'s No. 1 G. J. Luther, in SW cor. G. J. Luther 32-ac. tract ..... Shut down 3,003 ft.

Imperator Oil Co.'s No. 2 G. W. Carter, 175 ft. from S and 35 ft. from W of G. W. Carter 171-ac. tract, William Daniel Sur. ..... Shut down.

Jenkins et al's No. 1 V. T. Davis, SE cor. of 139.8-ac. tract, Nacogdoches County School Land ..... Drlg. 1,800 ft.

Kolp et al's No. 1 Matthews, 150 ft. S and E of 27-ac. tract off west end of 58.66-ac. tract, Willis H. Bruce Sur. ..... Drlg. 3,084 ft.

Kraft & Kelsey's No. 1 Enas in Vacancy strip on E side of Sam Allen and Wylie Enas farms in J. Prado Sur.. Drlg. 1,150 ft.

T. W. Moore's No. 1 Kellam, C of 52-ac. farm in Jesse Russell Sur. ..... Location.

Priest et al's No. 1 Blewitt, 175 ft. NW and SW of SE cor. of NW 84-ac. tract, E. Porter Sur. ..... Shut down 3,003 ft.

Pure Oil Co.'s No. 1 W. E. Morris, 250 ft. N of S line and 200 ft. E of W line of John Walling Sur. ..... Drlg. 2,680 ft.

Pure Oil Co.'s No. 1 A. D. Clark, 200 ft. S of N line and 150 ft. W of E line Mund Gross Sur. ..... Shut down 309 ft.

Pure Oil Co.'s No. 1 H. P. Tunnell, 200 ft. S of N line, 285 ft. W of E line James Pace Sur. ..... Drlg. 520 ft.

Pure Oil Co.'s No. 1 Humphreys, 225 ft. out of NE cor. of lease, A. McPhail Sur. ..... Shut down 303 ft.

Pure Oil Co.'s No. 1 R. A. Howell, 325 ft. S of N line, 225 ft. E of W line, Mund Gross Sur. ..... Drlg. 1,450 ft.

Pure Oil Co.'s No. 1 J. D. Miller, 943 ft. E of W line, 735 ft. S of N line, John Walling Sur. ..... Drlg. 1,675 ft.

Pure Oil Co.'s No. 1 A. D. Clark, 672 ft. S of N line and 217 ft. E of W line, A. H. Wiley Sur. ..... Derrick completed.

Pure Oil Co.'s No. 1 O. L. Swain, 225 ft. W of E line and 200 ft. N of S line, John Walling Sur. ..... Shut down 303 ft.

Pure Oil Co.'s No. 1 Mrs. J. E. Crumbie, 748 ft. S of N line and 225 ft. E of W line, John Walling Sur. .... Drlg. 2,340 ft.

Pure Oil Co.'s No. 1 Mrs. W. A. York, 650 ft. S of N line and 225 ft. E of W line, John Walling Sur. ..... Rigging up.

Pure Oil Co.'s No. 1 J. L. Petty, 350 ft. out of SE cor. Nacogdoches County School Land ..... Shut down 301 ft.
Pure Oil Co.'s No. 1 W. F. Swain, 328 ft. N of S line and 176 ft. W of most westerly E line, Mund Gross Sur... Derrick.
Pure Oil Co.'s No. 1 B. E. Crim, 250 ft. S of N line and 300 ft. W of E line, John Walling Sur. ..... Shut down 302 ft.
Pure Oil Co.'s No. 1 Davis, 127 ft. from S and 200 ft. from W of 139-ac. tract, Nacogdoches County School Land ..... Derrick completed.
Pure Oil Co.'s No. 1 M. L. McMahon 48 acres, 150 ft. E of W line, 150 ft. S of N line of lease, John Walling Sur. ..... Top sand 2,845-2,942 ft.; shut down 2,942 ft.
Pure Oil Co.'s No. 1 Ella York, 640 ft. from S and 250 ft. from W line 39.6-ac. farm, John Walling Sur. .... Coring sand 2,741 ft.
Texas Chief Oil Co.'s No. 1 Foster, 600 ft. E of W line and 600 ft. N of S line of W. P. Foster's 151-ac. tract in F. Montgomery Sur., 7 miles S of Canton.... Drlg. 1,865 ft.

WOOD COUNTY

Big Indian Oil Co.'s No. 1 R. J. King, 450 ft. W of E line and 150 ft. N of S line of King's 100-ac. tract in Wm. Barnhill Sur. ..... Shut down 4,569 ft.; Woodbine sand 4,569 ft.
Loche & Clark's No. 1 A. C. Pick, 165 ft. S of NE cor. G. C. Reeves 25-ac. tract, Daniel Fuller Sur. .... Shut down 997 ft.

EFFECTS OF TUBING IN FLOWING WELLS

(Continued from Page 38)

a minimum. However, any appreciable reduction in the well head pressure allows a corresponding lowering of back pressure on the formation. This eventually might be the cause of uneven encroachment of water and result in the premature cessation of flow in wells in the vicinity of the area of lowered pressure.

The disadvantages of intermittent flow were sufficient to warrant considerable work being done to find some other method of reducing gas-oil ratios.

The problem then arose of finding some means of attaining low ratios at steady, comparatively low rates of flow, which would tend toward even withdrawal of fluid and maintenance of maximum pressure in the productive horizon.

One of the main causes of the high gas-oil ratios obtained in flowing some of the wells through casing at low rates of flow was the separation of gas from the oil in the slowly ascending column of fluid, rising through what was apparently a far from efficient eductor string. The fact that increasing the rate of flow decreased the amount of gas per barrel is evidence for the above.

Reducing Eductor String

Fulfillment of the ideal conditions of low steady rates of flow, low gas-oil ratios and high bottom hole pressures necessitated a reduction in size of the eductor string. This involved the design of a flow string suitable to the individual requirements of the well. The problem confronting the designers of tubing in the Yates Field is somewhat unusual. Ordinarily, a theoretically efficient string of tubing may be inserted into a well and the rate of flow adjusted until the results are satisfactory or nearly so. In this field the tubing for a well must be designed for a certain present rate of flow which may at a future time vary upward or downward due to changing outlets or addition of new wells or units. The problem is further complicated by the fact that hydrostatic head plays such an important part in the lifting of the oil. The matter of formation gas lift must of course be given the same consideration in the design as in any other field.

The first string of tubing with the reduction of gas-oil ratios in view was run late in December, 1929. This was a 1,386-foot string suspended 53 feet off bottom and consisting of approximately equal lengths of 2-inch, 3-inch and 4-inch tubing, with the largest size on top. The gas-oil ratio at the regular production rate was reduced from 1,670 to 558 feet to the barrel.

Seven other wells were then tubed on the same lease with smaller tapered strings, in all cases three sizes being used per well; and even more successful results were obtained. The average gas-oil ratio for this group of eight wells was reduced from 2,078 to 288 feet per barrel, for the same rates of flow for the individual wells; 86 per cent reduction.

When possibilities for reduction of gas production by tubing became generally known, a meeting of production men and engineers was held. As a result of this meeting it was recommended that all wells producing more than 400 feet of gas per barrel be tubed in an attempt to reduce gas wastage. It was the sense of the meeting that any well flowing through casing with no higher gas-oil ratio than the above was being produced with reasonable efficiency and that in these cases the casing formed a comparatively suitable sized flow string for existing conditions. Representative wells tested for bottom hole pressures show formation pressures of approximately 700 pounds to the square inch. According to the results obtained from laboratory experiments, it is possible to have 146 feet of gas dissolved in the oil at this pressure. Some of the results of tubing have closely approximated this figure.

A company recognizing the low gas-oil ratios obtained with tapered strings tubed a well with equal lengths of 1-inch, 1¼-inch and 2-inch. There was no reduction in gas-oil ratio at the same rate of flow before and after tubing. The accompanying chart, No. 1, is self-explanatory. This, to a certain extent, determined that graduated strings would not respond the same on different types of wells. A study of the well logs and structural position of the wells was made and it was found that the first mentioned group of eight wells had obtained the greater portion of the gas in the top of the lime and the oil flow from the lower depths. The latter well was entirely different, having obtained the oil and gas in the same horizon. Since it was evident that all wells would not respond to the same type of flow string other companies ran tubing seemingly suitable to the characteristics of their own wells.

Present Conditions

At the present time there are 392 producing wells in the field. Of this number 129 are producing through various sizes of tubing. The depths of the wells vary from 1,000 to 1,850 feet and the rated potentials vary from a few barrels per day to over 100,000 in many cases.

The committee has used the data from 55 representative wells in presenting this report. The advantages of tubing wells has been considered to be four-fold: (1) Increasing the production of small wells that did not have enough gas to produce steadily through casing. (2) Increasing back pressure, thus tending to delay water encroachment. (3) Removal of water when it first appears, thereby preventing flooding. (4) Gas conservation

CHART NO. 1

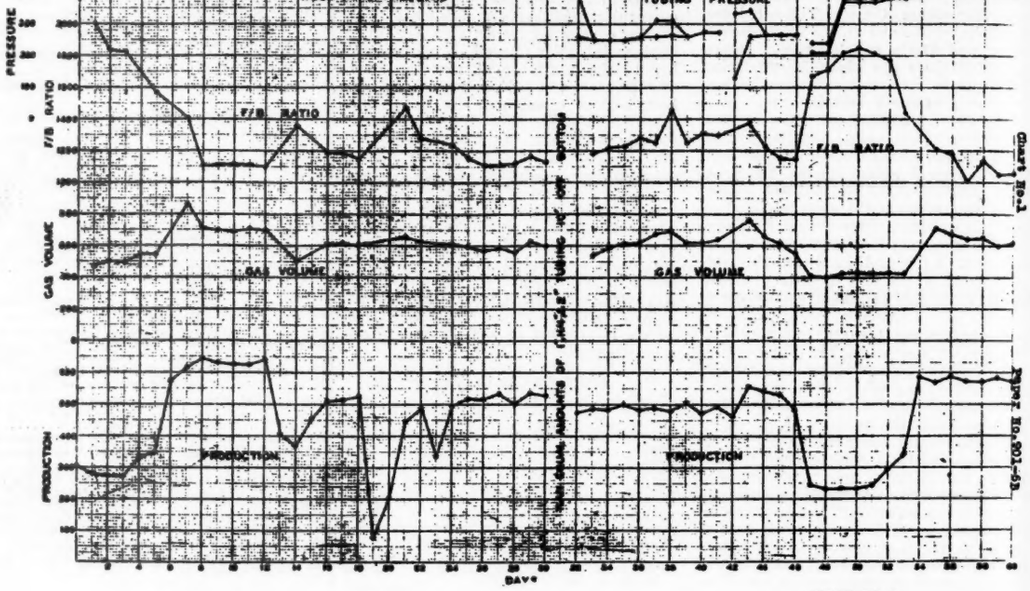
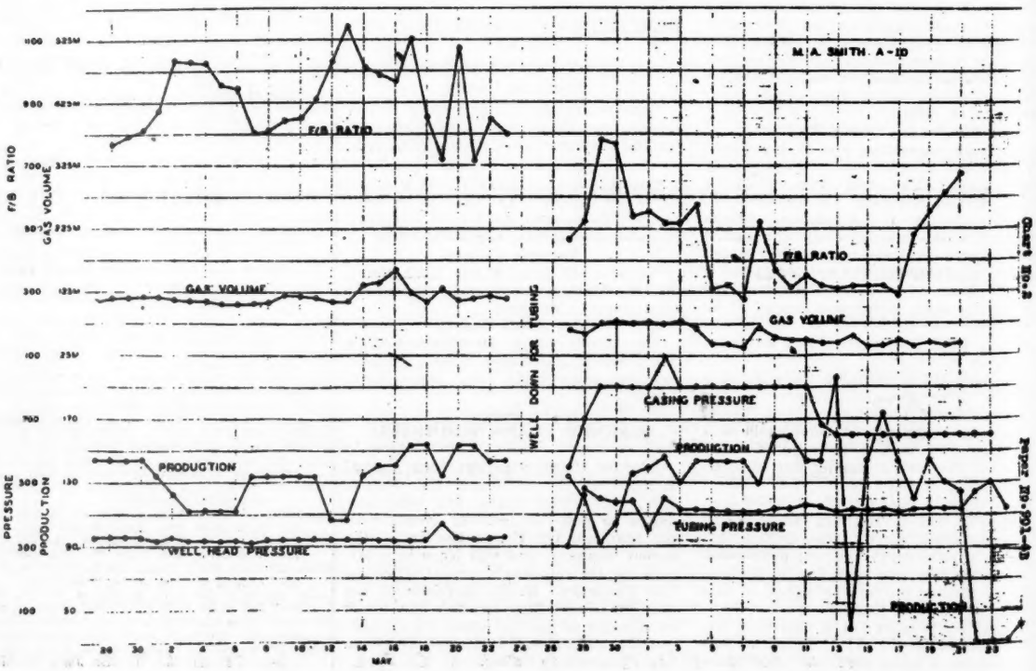


CHART NO. 2

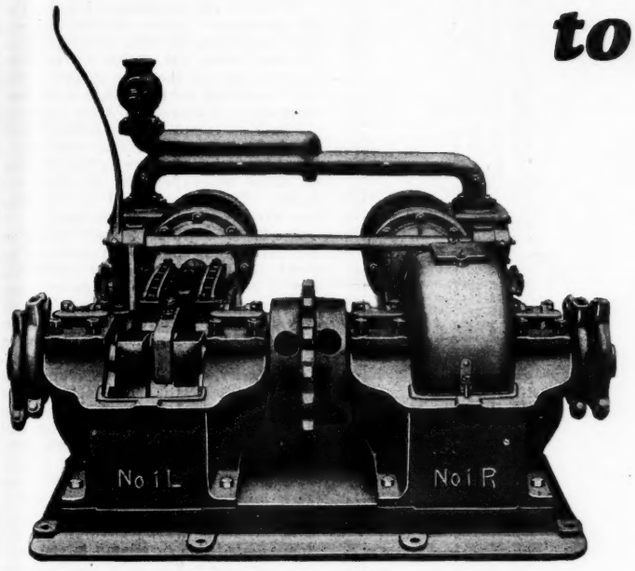


IT COSTS LESS—

to drill with

GUMBO BUSTER

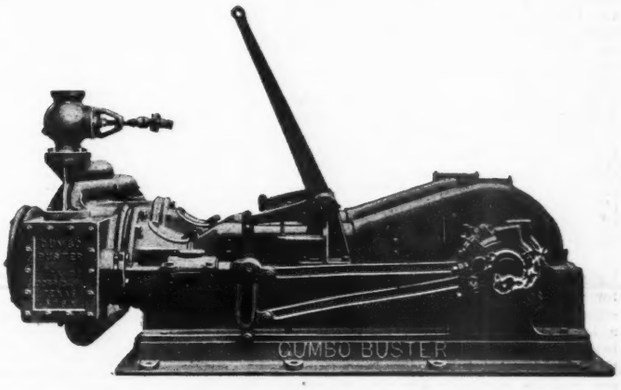
Steam Drilling Engines



The "GUMBO BUSTER" 12 x 12″ Twin Cylinder drilling engine furnishes ample power for lifting long strings of pipe in the high speed of draw works, as well as handling heavy loads with a slow positive motion without jerk or strain.

The engine is enclosed and working parts run in a bath of oil, assuring constant lubrication and keeping out grit and dirt. The constant lubrication permits a closer adjustment of the brasses and other bearings without danger of their heating.

The 4½″ solid, one-piece, double throw, forged steel crank shaft rests in four main bearings, a feature not found in any other steam drilling engine, assuring rigidity under severest drilling conditions and reducing vibration to a minimum. This design eliminates possibility of the shaft kinking for it reduces the distance between the two inside main bearings, allowing only the necessary width for the split engine drive sprocket. All valve mechanism is on the outside of the engine where adjustment can be made easily and quickly. Being so located the valve mechanism cannot be harmed should the engine chain break or jump the sprocket.



Drilling costs are greatly lowered through the use of the economically operated "Gumbo Buster" engine illustrated above. This sturdy engine is light in weight yet compact and is built to withstand the severest drilling conditions.

By attaching regular flywheel engine can operate in emergency on one cylinder. This feature may prevent loss of a well should one cylinder break down while the drill pipe is in the hole.

Write today for information.

Republic Supply Company

OIL AND GAS WELL SUPPLIES

Cable and Rotary Tools

GENERAL OFFICES: HOUSTON, TEXAS

by reduction of gas-oil ratios insuring the greatest ultimate recovery.

Many wells near the edge of the structure produced at rates of 5 to 30 bbls. per day flowing by heads. Records were obtained on five wells in which 1-inch tubing had been run. In four cases the production was raised 100 to 150 per cent and the wells flowed steadily. The other well which had been making one head a day of 5 bbls. began flowing steadily but at no greater rate.

One company has 12 edge wells which were tubed with 2-inch tubing. The total production before tubing was 1,402 bbls. per day with a gas-oil ratio of 1,146 feet per barrel. After tubing the average production for the first 30 days was 1,711 bbls. with a gas-oil ratio of 933 feet per barrel.

Another company tubed 13 wells with 2-inch tubing for the purpose of reducing gas-oil ratios. The average production of oil per day was the same before and after tubing due to proration. It was found that the average reduction of gas-oil ratios was 34 per cent. The data from one of the representative wells of this group is presented on Chart 2.

The attached table shows that in the 55 representative wells, tubing is saving 4,028,000 feet of gas per day. This is a gas saving of approximately 33 per cent by volume while the oil production was increasing 1,057 bbls. per day. The oil increase is due, in part, to raising the production of small wells and in part to the difficulty of regulating the flow of the large wells to the same rate as before tubing.

It is noted that different companies had varying results which is due to either the type of well or the type of tubing placed in the well. In cases where the per cent of reduction of gas-oil ratios was low, the wells shown were of many different types.

The results as shown on the table would indicate that a great deal of study of individual well conditions is necessary before tubing. The smaller wells have shown a decided increase in oil and decrease in gas-oil ratio and wells of this class are being tubed daily. However, the tubing program on wells of large potential is still in an experimental stage by most companies. Several companies have tubed or are tubing type wells differently in order to determine the most efficient eductor string before spending a large amount of money on a general tubing program. In some instances more than one type of tubing has been run in one well to determine the most efficient string. These experiments will probably be completed in the near future and it is thought that the majority of the large wells with a gas-oil ratio of over 400 feet per barrel at the allowed rate of production will be tubed.

IMPORTANT ADVANTAGES OF INSULATION ON BOILERS

(Continued from Page 42)

which are made to order, can be obtained from stocks of several insulating concerns located in the larger cities and who are equipped to contract the installation on a turn-key basis. Their service has been very satisfactory.

The asbestos blankets, made up in sections to fit snugly around the boiler, are best adaptable to boilers that are frequently moved and transported considerable distances, such as contractors' drilling boilers. This type of insulation is quite efficient and practically 100 per cent salvable, being very easily placed and removed by unskilled labor; however, it is necessary that each blanket be kept with the particular make and size of boiler for which it was manufactured to insure a proper fit and highest efficiency of heat conservation. The average cost is approximately $320 each for a 100 horsepower A.P.I. boiler in the Mid-Continent fields.

The block magnesia, adapted to use on station or lease boilers, is the type most readily obtained on short notice. It is the most efficient type of heat insulation but requires some skilled labor to install properly and in moving the boiler the loss, due to breakage, may amount to as much as 50 per cent. The average cost, in place, is approximately $250 per 100 horsepower boiler in nearly all Mid-Continent and Gulf Coast fields.

The insulating cement composed of silica, asbestos fiber and clay is probably the most satisfactory insulator for oil field use, as it is easily applied and repaired by unskilled labor. It is reclaimable and after being removed from a boiler it can be reused, with no loss in efficiency, by merely mixing with water and applying again. Its efficiency is quite high and its average cost is about $225 per 100 horsepower boiler in Mid-Continent fields.

Reducing Maintenance Costs

Insulation on boilers is not recommended as a substitute for a boiler house but is recommended as a means of conserving heat and reducing steam plant investment and maintenance costs. A waterproof coating applied directly over the insulation hard-finish coat will add considerably to the durability of the insulation. This should always be used on drilling boilers and other installations that are usually exposed to the weather. The above cost of each type of insulation includes the covering for steam lines and fittings in a boiler battery but does not provide for covering steam lines beyond the boiler house.

Steam lines should be covered with standard 1-inch thick, 85 per cent magnesia sectional pipe covering. Fittings and flanges should have a covering of equal thickness, composed of long fiber asbestos cement and canvas outside cover. All lines exposed to the weather should have an additional protection of a three-ply roofing jacket wired on with No. 16 gauge galvanized iron wire and the fittings and flanges should be covered with one-quarter-inch emulsified asphalt coating. The costs per foot of outside pipe insulated and weatherproofed as outlined, are approximately as follows: 4-inch pipe, 80 cents per foot; 3-inch pipe, 65 cents per foot and 2-inch pipe, 45 cents per foot.

It is important to remember that the heat loss from a few hundred feet of steam line is equivalent to that from the entire surface of a boiler; also the hotter the steam the greater its power.

Regardless of which material is used, oil field boilers and steam lines should always be insulated, as it is a rare case where the cost will not be returned many times over.

To cite a few examples: No. 1. Four 70 horsepower boilers uninsulated were each consuming 35 bbls. of crude oil per day and were not delivering sufficient steam to operate the lease properly. They were insulated in three days with block magnesia and asbestos. After insulating the fuel consumption was reduced to 20 bbls. of oil per boiler, and although the weather was much more severe and colder, three boilers carried the load very easily. The cost of $840 for insulating was saved in less than one week.

No. 2. Four 75 horsepower boilers uninsulated and fired with natural gas could not furnish sufficient steam, and due to heavy firing were constantly giving flue and staybolt trouble. The records indicated maintenance and repairs of almost $160 per month for each boiler. A request was made to install an additional boiler. Instead, the four boilers were insulated with block magnesia and asbestos and three boilers were then able to handle the load, which had somewhat increased, and the $160 per month maintenance expense was practically stopped.

No. 3. A station having two 65 horsepower uninsulated boilers was using 50 bbls. of crude oil per day for fuel; the boilers were so heavily fired that it was almost impossible to remain in the boiler house because of the noise and vibration. These boilers were insulated and the fuel consumption dropped to 30 bbls. per day and one boiler was able to carry the load part of the time. The cost of $410 for insulation was saved in less than three weeks.

These are typical cases and should be convincing that to insulate boilers and steam lines is a good investment.

LIST OF OSAGE TRACTS TO BE OFFERED AT AUCTION SEPT. 29

One hundred and fifty-seven tracts of land in Osage County, Oklahoma, all but one of which are quarter sections, will be offered for lease for oil drilling purposes at a public auction to be held in Pawhuska, Okla., on Monday, September 29, commencing at 10 a. m.

The leases will be of the five-year variety, that is, the purchaser may hold his lease five years without drilling, upon payment of an annual rental of $1 per acre. The regular rules governing Osage lease purchases require that a well be drilled within one year. For some time past this rule has been suspended at each sale.

Following are the tracts listed:

East Side

Tract	Description	Acreage
1	NW 3-20-12	160
2	SW 29-20-12	160
3	NE 26-20-11	160
4	NE 30-20-11	160
5	SE 33-21-11	160
6	SW 33-21-11	160
7	SE 8-26-11	160
8	SW 8-26-11	160
9	SE 27-27-11	160
10	SW 27-27-11	160
11	SW 27-28-11	160
12	NW 2-20-10	160
13	SE 27-20-10	160
14	NE 33-20-10	160
15	SW 13-21-10	160
16	NE 14-21-10	160
17	SE 20-21-10	160
18	SW 21-21-10	160
19	SW 28-21-10	160
20	NE 35-21-10	160
21	NW 35-21-10	160
22	SW 5-22-10	160
23	NE 8-22-10	160
24	NW 8-22-10	160
25	SW 17-22-10	160
26	SW 15-23-10	160
27	NE 22-23-10	160
28	SE 31-23-10	160
29	NE 32-14-10	160
30	NW 32-24-10	160
31	SE 3-26-10	160
32	SW 15-26-10	160
33	NE 22-26-10	160
34	NW 22-26-10	160
35	SE 14-28-10	160
36	NE 15-28-10	160
37	SE 15-28-10	160
38	SW 1-20-9	160
39	Fr. NW 12-20-9	39
40	NE 18-21-9	160
41	NW 18-21-9	160
42	SE 27-21-9	160
43	SW 27-21-9	160
44	NE 34-21-9	160
45	NW 34-21-9	160
46	SE 9-22-9	160
47	SW 9-22-9	160
48	NE 19-22-9	160
49	NW 19-22-9	160
50	SE 19-22-9	160
51	SW 19-22-9	160
52	NE 15-23-9	160
53	SW 27-23-9	160
54	NE 33-23-9	160
55	SW 8-24-9	160
56	SW 14-24-9	160
57	NE 11-25-9	160
58	SE 11-25-9	160
59	SE 14-25-9	160
60	SW 28-25-9	160
61	NW 30-25-9	160
62	NW 8-26-9	160
63	SE 27-26-9	160
64	SW 27-26-9	160
65	NW 34-26-9	160
66	NE 12-28-9	160
67	NW 12-28-9	160
68	SE 12-28-9	160
69	SW 12-28-9	160
70	NE 3-21-8	160
71	SE 3-21-8	160
72	SW 8-22-8	160
73	NW 25-22-8	160
74	SW 25-22-8	160
75	NE 26-22-8	160
76	SE 26-22-8	160
77	SE 11-23-8	160
78	SE 25-23-8	160
79	NE 30-23-8	160
80	SE 36-23-8	160
81	SW 36-23-8	160
82	SE 13-24-8	160
83	NE 24-24-8	160
84	NW 27-24-8	160
85	SW 27-24-8	160
86	NW 32-24-8	160
87	NE 8-26-8	160
88	NW 8-26-8	160
89	SE 8-26-8	160
90	SW 8-26-8	160

West Side

Tract	Description	Acreage
91	SW 2-23-7	160
92	SE 3-23-7	160
93	NE 13-23-7	160
94	NW 15-23-7	160
95	SE 2-24-7	160
96	SE 6-24-7	160
97	NE 11-24-7	160
98	NE 15-24-7	160
99	SE 15-24-7	160
100	SW 15-24-7	160
101	SW 27-24-7	160
102	SE 28-24-7	160
103	NE 32-24-7	160
104	NW 16-25-7	160
105	SW 16-25-7	160
106	NE 17-25-7	160
107	SE 17-25-7	160
108	SW 18-25-7	160
109	SE 19-25-7	160
110	SW 19-25-7	160
111	NE 35-25-7	160
112	NW 35-25-7	160
113	NE 4-26-7	160
114	NE 22-26-7	160
115	NW 22-26-7	160
116	SE 22-26-7	160
117	SW 22-26-7	160
118	SE 21-27-7	160
119	NW 25-27-7	160
120	NE 28-27-7	160
121	SE 5-28-7	160
122	NE 9-28-7	160
123	NE 17-28-7	160
124	NE 21-28-7	160
125	SW 22-28-7	160
126	NE 35-28-7	160
127	NW 35-28-7	160
128	SE 35-28-7	160
129	SW 35-28-7	160
130	SW 6-23-6	160
131	SW 10-23-6	160
132	SE 13-23-6	160
133	NE 19-24-6	160
134	SE 19-24-6	160
135	SE 22-24-6	160
136	SE 34-24-6	160
137	NW 5-25-6	160
138	SE 7-25-6	160
139	NE 9-25-6	160
140	SE 9-25-6	160
141	SW 23-26-6	160
142	SW 27-26-6	160
143	NW 13-27-6	160
144	NE 22-27-6	160
145	NW 23-27-6	160
146	NE 21-25-5	160
147	NW 22-25-5	160
148	SW 22-25-5	160
149	NE 31-25-5	160
150	NE 11-26-5	160
151	SW 11-26-5	160
152	NE 19-26-5	160
153	NE 33-26-5	160
154	SW 33-26-5	160
155	SE 13-26-4	160
156	NE 24-26-4	160
157	NW 24-26-4	160

Total acreage	24,999
East side	14,279
West side	10,720

SOUTHEASTERN OHIO CURTAILMENT MEETING

LOGAN, Ohio, Aug. 30.—Producers from southeastern Ohio, representing Washington, Monroe, Hocking, Perry and many other counties in this district, met at Logan this week. E. J. Mildren, president of the Southeastern Ohio Oil and Gas Men's Association, presided, and gave a report of the general Pennsylvania crude curtailment meeting at Pittsburgh on August 22.

Representatives of several of the larger companies and many others took part in a general discussion. A majority voiced themselves in favor of continued and more effective curtailment. President Mildren reported that practically all of the producers in southeastern Ohio were curtailing and felt that with the continued co-operation it would only be a matter of a short time until the proper relief was provided.

H. D. Atha of Logan was elected chairman to receive pipe line reports and with the other members of the Southeastern Ohio Conservation Committee, I. C. Grimm of Woodsfield and John McCoy of Marietta, will push to completion all necessary plans for curtailment.

An assessment of 1 cent per barrel for a month's production was agreed upon to take care of preliminary expenditures.

CUBAN OIL CONCESSION LAW

Several amendments to the Cuban mining law of September, 1914, were published in June, 1930. They relate to applications for oil concessions. The concessionaire will be granted a year's time to make payment, which varies according to area. Applicants must present a report from a competent engineer or geologist within one year and pay the government, in addition to the profits tax, a royalty of 5 per cent, free from expense, on all oil-producing wells included in the concession. There are some minor regulations also added to the former provisions.

WILDCAT OPERATIONS IN WEST TEXAS

(Continued from Page 71)

Independent Oil & Gas Co.'s No. 1 Eidson, 1,200 ft. S and 2,144 ft. E of NW cor., Sec. 6, Blk. 44, Twp. 3s, T.&P. Sur. ... Shut down 3,800 ft.; 1,000 ft. oil in hole.

H. F. Wurtz' No. 1 E. A. Ibbetson et al, 330 ft. from N and E lines of NW, Sec. 16, Blk. 46, Twp. 3s, G.M.M.Br.&A. Sur. ... Shut down 2,375 ft.

T. P. Coal & Oil Co.'s No. 1 McKenzie, 1,650 ft. from S and 330 ft. from E of Sec. 282, Blk. 45, Twp. 2s, T.&P. Sur. ... Total depth 3,870 ft.; plugged back to 3,775 ft.; shut down.

R. R. Penn et al's No. 1 Goodman et al, 2,640 ft. N and 330 ft. W of SE cor., Sec. 27, Blk. 44, T.&P.R.R. Sur. ... Shut down 4,398 ft.; show oil 4,043 and 4,120-30 ft.

Simms Oil Co. et al's No. 4 University, 1,650 ft. from S and 1,320 ft. from E of Sec. 1, Blk. 35 ... Location.

Skelly Oil Co. and Republic Prod. Co.'s No. 1 McKenzie, 990 ft. from S line and 330 ft. from E line of Sec. 28, Blk. 45, Twp. 2s, T.&P. Sur. ... Shut down 3,750 ft.; flowed 110 bbls. on July 12; shut in for storage.

Skelly Oil Co. et al's No. 1-C University, 2,310 ft. from N and W of Sec. 2, Blk. 35 ... Drlg. 3,365 ft.

EL PASO COUNTY

Lane-The Texas Company's No. 1 Malone, 2,110 ft. from SW and NW of Section 46, J. M. Day Sur. ... Shut down 3,089 ft.

FISHER COUNTY

Cranfill & Reynolds' No. 2 Flannigan, 330 ft. from S and E of W half of Sec. 200, B.B.B.&C.R.R. Sur. ... 2,500 ft. oil in hole from 3,090-95 ft.; shut down 3,130 ft.; plugged back to 3,124 ft.; to test.

Cranfill & Reynolds' No. 3 Willingham, 330 ft. from S and E of Sec. 207, B.B.B.&C. Sur. ... Rigging up.

The Texas Company's No. 1-A Teagarden, 150 ft. from S and 420 ft. from E of Sec. 8, Richardson Sur. ... Total depth 3,225 ft.; plugged back to 3,193 ft. and shot with 40 qts. from 3,177-88 ft.; no results.

GARZA COUNTY

Pandem Oil Corp.'s No. 1 Justice, 330 ft. from S and W of Sec. 12, Blk. 4, H.&G.N. Sur. ... Spudded and shut down.

Richard's No. 1 Stoker, 330 ft. from N and W. Sec. 2, Blk. 2, G.&H. Sur. ... Cleaning out 3,044 ft.

GLASSCOCK COUNTY

Timberlake & Snyder's No. 1 Meek, 2,310 ft. W and 1,600 ft. N of SE cor., Sec. 7, Blk. 34, Twp. 3s, T.&P. Sur. ... Total depth 2,956 ft.; fishing casing.

World Oil Co.'s No. 3-C McDowell, 2,310 ft. from S and W of NE cor., Sec. 21, Blk. 34, Twp. 2s, T.&P. Sur. ... Shut down 680 ft.; running 15½-in. casing.

HOWARD COUNTY

Cosden Oil Co.'s No. 6 Roberts-A, 200 ft. N and E of SW cor., Sec. 129, Blk. 29, W.&N.W.R.R. Sur. ... Sulphur water 1,433-46 ft.; shut down 1,456 ft.

Greene O. R. Co. et al's No. 1 Denman, 330 ft. from N and W of E half of NE, Sec. 14, Blk. 30, Twp. 1s, T.&P. Sur. ... Drlg. 1,300 ft.

Merriwether's No. 1 Smith, 150 ft. from S, 2,490 ft. from W, Sec. 45, Blk. 33 ... 2,000 ft. water in hole; shut down 3,270 ft.

Moody Oil Corp.'s No. 23-B Roberts, 990 ft. from N and W of Sec. 137, Blk. 29 ... Shut down 261 ft.

HUDSPETH COUNTY

Theison's No. 1 University, 2,050 ft. from S and 2,225 ft. from E of Sec. 17, Blk. E ... Spudded.

Western States Oil Co.'s No. 1 Gardner & Moseley, NE NW, Sec. 12, Blk. 18 ... Shut down 3,132 ft.

Williams & Williams Drlg. Co.'s No. 1 Noelke, 200 ft. from N and 1,020 ft. from E of Sec. 8, City of San Antonio Sur. ... Machine.

IRION COUNTY

Bristow et al's No. 1 Nutt, 180 ft. from NW of SW of NW, Sec. 6, Gonzales Co. School Lands ... Drlg. 900 ft.

Crawford Oil Co.'s No. 1 Williams, 450 ft. from N, 160 ft. from W, Subd. 8 ... Shut down 1,105 ft.

Cromwell et al's No. 1 Tankersley, 150 ft. from N and 210 ft. from W of E half of Sec. 1,320, G.C.&S.F. Sur. ... Drlg. 1,705 ft.

Straughn & Texannati Oil Co.'s No. 1 Tankersley, 150 ft. from S and 750 ft. from W of Sec. 4, Gonzales Co. School Lands ... Moving in material.

F. H. Williams' No. 1 Ash, C of Sec. 20, Washington County ... Show oil 7,931 ft.; shut down 8,-890 ft.; may drill deeper.

Webb et al's No. 1 Nutt, 150 ft. from S and 116 ft. from W of Blk. 5, Gonzales Co. School Land ... Location.

F. F. Webb's No. 1 W. H. Williams, 200 ft. from E and 750 ft. from S line SW of NE Sec. 10, Gonzales Co. School Land ... Drlg. 100 ft.

JONES COUNTY

Gibson Johnson's No. 1 Hudspeth, 1,125 ft. from N and 483 ft. from E of Sec. 22, Edward Miles Sur. ... 600 ft. oil and water in hole; top pay 2,542 ft.; underreaming 5 3/16-in. casing; total depth 2,806 ft.

Pope et al's No. 1 Swann, 2,023 ft. from S and 400 ft. from E of I. Miley Sur. No. 281 ... Spudded and shut down.

LOVING COUNTY

Eppenauer et al's No. 1 Allen, 2,310 ft. from NE and NW lines, Sec. 90, Blk. 1, W.&N.W. Sur. ... Shut down 215 ft.

Lockhart & Co.'s No. 3 Bowen & Wells, 330 ft. from NE and SE of Sec. 92, Blk. 1, W.&N.W. Sur. ... Shut down 3,383 ft.

Badlock et al's No. 2 Russell, 1,650 ft. SW of NE line, 2,310 ft. NW of SE line, Sec. 80, Blk. 1, W.&N.W. R.R. Sur. ... Total depth 4,360 ft.; made 47-bbl. head after standing 6 days; to shoot.

Henshaw et al's No. 1 Reagan & McElvain, 990 ft. from SE and 330 ft. from SW, Sec. 34, Blk. 1, W.&N.W. Sur. ... Drlg. 2,360 ft.

Lockhart & Co.'s No. 2 fee, 676 ft. S, 330 ft. W, Sec. 91, Blk. 1, W.&N.W. Sur. ... Spudded 140 ft.; shut down.

Lockhart & Co.'s No. 3 Hubbard, 1,650 ft. from NE line, 330 ft. NW line of Sec. 83, Blk. 33, H.&T.C.R.R. Sur. Rigged up and shut down.

Miller et al's No. 1 Chapman, 225 ft. from NW and 285 ft. from SW line, Sec. 71, Blk. 1, W.&N.W. Sur. ... Drlg. 2,450 ft.

Rush et al's No. 1 Wheat, 1,650 ft. from NW and 330 ft. from SW of Sec. 35, Blk. 1, W.&N.W. Sur. ... Drlg. 3,510 ft.

California Co.'s No. 2 Reagan & McElvain, 440 ft. from NW and SW, Sec. 84, Blk. 1, W.&N.W. Sur. ... Run 7-in. casing 4,035 ft.

California Co.'s No. 4 Reagan & McElvain, 330 ft. from NE and 1,650 ft. from NW, Sec. 84, Blk. 1, W.&N.W. ... Drlg. 2,775 ft.

Lee O. White et al's No. 1 Russell et al, 320 ft. from NW and 2,200 ft. from SW, Sec. 80, Blk. 1, W.&N.W. ... Drlg. 2,938 ft.

MENARD COUNTY

Barnett et al's No. 3 Callan City Co., 300 ft. from S and W, Sec. 1, B.S.&F. Sur. ... Show oil 709-11 ft.; shut down 1,270 ft.

Barnett et al's No. 4 Callan City Co., 1,200 ft. from S and 2,200 ft. from W, Sec. 1, B.S.&F. ... Machine.

Panhandle Ref. Co.'s No. 2 Eckhart, 1,820 ft. from W and 1,320 ft. from S of Sec. 10, Blk. 2, T.W.N.G. Sur. ... 500,000 ft. gas with show oil 2,945 ft.; shut down 3,200 ft.; to plug back to 2,955 ft. to save gas.

Priest's No. 1 Sorrel, 1,000 ft. from E and 200 ft. from S cor., Sec. 132, E.L.R.R. Sur. ... Fishing tools 2,415 ft.

MIDLAND COUNTY

Kerwin et al's No. 1 Mathen, 2,310 ft. from N and 335 ft. from W line Sec. 40, W. L. Gray Sur. ... Location.

MITCHELL COUNTY

Morrison et al's No. 2 Morrison, 2,390 ft. from N and 660 ft. from E of Sec. 31, Blk. 28, Twp. 1n, T.&P. R.R. Sur. ... Total depth 3,112 ft.; top pay 3,038 ft.; 1,000 ft. oil in hole; swabbing 40 bbls. in 24 hrs.

Morrison et al's No. 1 Poe et al, 660 ft. S and 1,980 ft. W parallel to section lines of NE cor., Sec. 8, Blk. 27, T.&P. Sur. ... Spudded 10 ft. and shut down.

PECOS COUNTY

Barnes et al's No. 1 Sanford, 160 ft. from NW and 157 ft. from SW of Sec. 55, Blk. 10, H.&G.N. Sur. ... Drlg. 1,074 ft.

Curry & Eakin's No. 1 Pecos Valley Oil Co., 1,050 ft. from SE and 1,470 ft. from SW, Sec. 36, Blk. 3, H.&T.C. Sur. ... Drlg. 1,230 ft.

Dittman's No. 1 Jackson, 2,310 ft. from NE and 330 ft. from NW, Sec. 28, Blk. 3, H.&T.C. ... Location.

Dittman's No. 1 Eaton, 2,310 ft. from SW and NW, Sec. 35, Blk. 3, H.&T.C. ... Spudded and shut down.

Dittman's No. 2 Eaton, 990 ft. from SW and 330 ft. from SE, Sec. 35, Blk. 3, H.&T.C. ... Location.

Dittman's No. 1 Eaton, 330 ft. from NE and SE, Sec. 37, Blk. 3, H.&T.C. ... Location.

G. A. Henshaw, Jr., Inc.'s No. 1 University, 1,650 ft. from S and 990 ft. from E, Sec. 32, Blk. 16 ... Shut down 1,575 ft.

Humble Oil & Ref. Co.'s No. 1 Kokernot, 1,320 ft. from N line and 1,467 ft. from W line of Sec. 227, Blk. 10, G.H.&S.A. Sur. ... Drlg. 3,416 ft.

Humble Oil & Ref. Co.'s No. 1-B Thoman, 1,608 ft. from N and 4,062 ft. from E of Sec. 98, Blk. OW, G.C.&S.F. Sur. ... Drlg. 790 ft.

Independent O. & G. Co.'s No. 4 McDonald, 115 ft. from N and 2,485 ft. from E, Sec. 46, Blk. 12, H.&G.N. ... Shut down 1,980 ft.

Magnolia Pet. Co.'s No. 1 Byrne, 2,490 ft. from SE and SW, Sec. 54, Blk. 10, H.&G.N. Sur. ... Drlg. 765 ft.

McCurdy & Brown's No. 2 Tippett, 150 ft. from N and W of SE, Sec. 40, Blk. 194, G.C.&S.F. ... Location.

Messenger et al's No. 2 Byrne, 2,490 ft. from NE and SE of Sec. 54, Blk. 10, H.&G.N. Sur. ... Shut down 1,367 ft.; flowing 45 to 50 bbls. per day.

Messenger et al's No. 1 Butz, 1,830 ft. from NW and 1,170 ft. from SW, Sec. 54, Blk. 10, H.&G.N. Sur. ... Shut down 740 ft.

J. R. Miller et al's No. 1 Bennett, 359 ft. W of CWL, Sec. 1, Blk. 119, G.C.&S.F. ... Shut down 1,700 ft.

J. D. O'Mara's No. 1 Bennett, Sec. 593, 1,460 ft. from S, 150 ft. from E, G.C.&S.F. ... Total depth 1,230 ft.; top pay 1,089 ft.; plugged back to 1,185 ft.; will drill deeper.

J. D. O'Mara's No. 1 Streety, C of Sec. 1, W. P. Howard Sur. ... Underreaming 2,200 ft.

Oregon Oil Corp.'s No. 2 Yates, 150 ft. from S and W of Sec. 58, Blk. 1, I.&G.N. Sur. ... Shut down 2,440 ft.

Perren Oil Co.'s No. 2 Eaton, C of E of W, Sec. 27, Blk. 3, H.&T.C. Sur. ... Drlg. 1,560 ft.

Plymouth Oil Co.'s No. 1 Perry, 330 ft. from N and W Sec. 13, Blk. 194, G.C.&S.F. ... Total depth 1,920 ft.; top pay 1,892 ft.; flowing 25 bbls. per day.

Plymouth Oil Co.'s No. 4 Perry, 300 ft. from N and 420 ft. from E, Sec. 14, Blk. 194, G.C.&S.F. Sur. ... Cellar.

R. W. Porpus et al's No. 1 State Land, 330 ft. S and W lines of NE, Sec. 28, Blk. OW, T.C.R.R. Sur. ... Spudded and shut down.

Pure Oil Co.'s No. 1 Harrison, 2,310 ft. from N and 330 ft. from W of Sec. 203, Blk. 3, T.&P. Sur. ... Drlg. 1,395 ft.

Riser & White's No. 1 Riser, 2,297 ft. from S and 997 ft. from E of Sec. 24, Blk. 12, H.&G.N. Sur. ... Shut down 90 ft.

Sides & Cloyd's No. 2 Blackstone & Slaughter, C NW of Sec. 34, Blk. A-2, T.&C.R.R. Sur. ... Drlg. 2,215 ft.

California Co.'s No. 1 Fromme, 330 ft. from NE and NW, Sec. 106, Blk. 10, H.&G.N. Sur. ... Shut down 1,650 ft.

California Co. et al's No. 1 Thomas, 990 ft. from NW and SW, Sec. 31, Blk. 34, H.&T.C. Sur. ... Location.

The Texas Company's No. 1 Wright, 660 ft. S and E of NW cor., Sec. 9, Blk. 131, T.&St.L. Sur. ... Shut down 3,504 ft.

Warner's No. 1 Webb, 2,550 ft. from NW and 6,100 ft. from NE of Sec. 311, Abst. 756, C. McGinley Sur. ... Rigged up and shut down.

PRESIDIO COUNTY

L. C. Brite's No. 4 Brite, 271 ft. from N and 1,188 ft. from E lines of Sec. 245, Blk. 4 ... Shut down 2,650 ft.

REAGAN COUNTY

Big Lake Oil Co.'s No. 4-C University, 1,120 ft. from N and 1,096 ft. from E of Sec. 1, Blk. 2 ... Top pay 8,220 ft.; flowed 15 bbls. 24 hrs.; total depth 8,220 ft.

Big Lake Oil Co.'s No. 5-C University, 625 ft. from S and 200 ft. from W of Sec. 25, Blk. 9 ... Drlg. 2,952 ft.

Texon O. & L. Co.'s No. 4-B University, 1,120 ft. from N and W of Sec. 26, Blk. 9 ... Rigging up.

REEVES COUNTY

H. T. Hansford's No. 1 Williams, 150 ft. from S and W Sec. 17, Blk. 6, H.&G.N. Sur. ... Shut down 380 ft.

Black & Fink's No. 1 Brooks, 1,980 ft. N and 660 ft. W Sec. 16, Blk. 50 ... Shut down 1,860 ft.; show oil 1,820 ft.; cleaning out after two shots; filled up 200 ft. with oil.

Riggs & Smith's No. 1 Lee Monroe, 2,390 ft. from NE and 330 ft. from NW line, Sec. 34, Blk. 7, H.&L.N. Sur. ... Spudded and shut down.

Salsbury & Gregory's No. 1 Young Bell, 1,170 ft. from N and 330 ft. from E of Sec. 7, Blk. 5, H.&G.N. ... Shut down 370 ft.

Lee O. White et al's No. 1 Hershersor, 330 ft. from N and W lines of Sec. 5, Blk. 51, Twp. 10, T.&P. Sur. ... Drlg. 4,415 ft.

California Co.'s No. 1 Kioh & Rumsey, 1,650 ft. from S and E of Sec. 13, Blk. 54, Twp. 4, T.&P. Sur. ... Shut down 3,604 ft.

RUNNELS COUNTY

Dutton et al's No. 1 Dean, 5,475 ft. from NE and 1,048 ft. from NW in J. Heil Sur. No. 419 ... Show oil 2,308-95 ft.; gas pocket 2,303 ft.

George W. Boyce's No. 1 Lang, 2,310 ft. N, 6,900 ft. E, Sec. 262 ... Show oil 2,028 ft.; shut down 2,643 ft.

SCHLEICHER COUNTY

Delmar Oil Co.'s No. 1 O'Harrow, C of NW Sec. 56, Blk. 1, G.H.&S.A.R.R. Sur. ... Drlg. 4,700 ft.

Interstate's No. 1 Whitten, 1,320 ft. from N and W, Sec. 35, Blk. LL, T.C.R.R. Sur. ... Plugging back to shoot oil and gas show at 4,915-25 ft.; total depth 6,880 ft.

Teas & Gant's No. 1 Allison, 1,320 ft. N and E of SW cor. of Sec. 37, Blk. K, G.H.&S.A.R.R. Sur. ... Drlg. 3,510 ft.

Wesner et al's No. 1 Nicks, 2,310 ft. from N and 2,362 ft. from E of Sec. 77, Blk. LL, T.C.R.R. Sur. ... Cleaning out 3,535 ft.

Westyde et al's No. 1 Meador, 1,320 ft. from S and E of Sec. 661, G.C.&S.F. Sur. ... Location.

George Wilson's No. 1 Page, Sec. 40, Blk. L, 1,290 ft. from N, 1,470 ft. from W, G.H.&S.A.R.R. Sur. ... Fishing 4,912 ft.

SCURRY COUNTY

Byrd & Harmon's No. 1 Murphy, Jr., 320 ft. from N and E of Sec. 114, Blk. 97, H.&T.C. Sur. ... Shot 150 qts. 3,100-3,140 ft.; shot 180 qts. 2,302-50 ft.; filled up 750 ft. 12 hrs.

Camp Spring Oil & Ref. Co.'s No. 3 Guinn, 1,300 ft. from S, 300 ft. from E, Sec. 12, Blk. 3, H.&T.C.R.R. Sur. ... Shut down 4,372 ft.

Camp Spring Oil Co.'s No. 1 Strayhorn, 330 ft. from S and 1,980 ft. from W of Sec. 154, Blk. 3, H.&G.N. — Shut down 700 ft.
I. B. Mimms et al's No. 1 J. J. Koonsman, Sec. 216, Blk. 2, H.&T.C.R.R. Sur. — Spudded and shut down.
G. E. Dickman and R. B. Pender et al's No. 1 F. C. Davis, 1,000 ft. N and 1,770 ft. W of SE cor. of Sec. 275, Blk. 2, H.&T.C. Sur. — Drlg. 4,970 ft.
Seifert & Dibbi's No. 1 T. M. Blackburn, 2,310 ft. from N and 2,310 ft. from W line of Sec. 155, Blk. 97, H.&T.C. Sur. — Cellar.
Transcontinental Oil Co.'s No. 1 Peckham, 330 ft. from S and W of R. N. Miller Sur. — Drlg. 3,720 ft.

STERLING COUNTY

Beesley et al's No. 1 Brown, 2,940 ft. N and 300 ft. W of SW cor. Sec. 7, Blk. 22, H.&T.C., but in Sec. 16, Blk. 21, Twp. 4s, T.&P. — Spudded.

SUTTON COUNTY

Independent Oil & Gas Co.'s No. 1 Wilson, Sec. 30, Blk. A, 1,650 ft. from N, 2,310 ft. from W — Location.

TAYLOR COUNTY

Clark et al's No. 1 Kendall, 250 ft. from N and W of farm in Willis Avery Sur. — Fishing 2,080 ft.
Eastland Oil Co.'s No. 1 Hunter, 1,574 ft. from E and 3,418 ft. from S of William R. Ellis Sur. — Shut down 2,140 ft.
Gibson & Johnson's No. 1 Bingham, 330 ft. N and E of SW cor. their 270.8-acre tract, Sec. 31, Guadalupe County School Land — Shut down 2,444 ft.
John B. Jameson's No. 1 Webb, 1,170 ft. S and W of NE cor., Sec. 46, Lunatic Asylum Land — Show oil 4,917 ft.; shut down 6,078 ft.
Hucony Oil Co. et al's No. 1 Richie, C SE Sec. 10, Blk. A, S.P.R.R. Sur. — Drlg. 1,425 ft.
Sanger et al's No. 1 City of Abilene, 330 ft. from S and 1,400 ft. from E of Sec. 66, Blind Asylum Lands — Rigging up.
Sanger O. & R. Co.'s No. 1 Osborn, 330 ft. from SW of SE, Sec. 68, Blind Asylum Lands — Rig.

TERRELL COUNTY

Big Bend Oil Co.'s No. 1 Bassett, C NW, Sec. 1s5, Blk. D, M.-K.-T.R.R. Sur. — Shut down 2,180 ft.
Keck Pecos Trust Co.'s No. 1 Hamilton, C Sec. 6, Georgetown Ry. Sur. — Shut down 3,150 ft.
Miller Bros.' No. 1 Allison & Burke, C NW cor. Sec. 10, Blk. 176, T.&P. Sur. — Shut down 120 ft.
Mrs. J. B. McPhees' No. 1 Sam Belt, C Sec. 17, Blk. D-7, E.L.R.R. Sur. — Shut down 880 ft.; moved off machine.
Transcontinental Oil Co.'s No. 1 Goode, 2,152 ft. from E and 330 ft. from S. Sec. 26, Blk. 161, G.C.&S.F.R.R. Sur. — Fishing 5,320 ft.
Woodley & Jones' No. 1 Pankenham, C SE NW, Sec. 43, Blk. B-2, C.C.S.D.&N.G.R.R. Sur. — Shut down 640 ft.

TOM GREEN COUNTY

Belding & Dutton's No. 1 Nosworthy, 2,640 ft. from S and 587 ft. from E of John McNeese Sur. — Shut down 450 ft.
Cosden Oil Co.'s No. 1 William Anson, 2,310 ft. S, 330 ft. W of NE cor., Sec. 30, Blk. 24, H.&T.C.R.R. Sur. — Location.
Ellis' No. 3 Lewis, 1,350 ft. S and 450 ft. E of SW cor. James Webb Sur. 77, but in Albert Black Sur. 75 — Shut down 1,198 ft.
Fitzgerald & Taliaferro's No. 1 Bennett, C SW Sec. 1,628, E. E. Dinger Sur. — Plugged back to 2,405 ft. to straighten hole; shut down 2,447 ft.
Mintex Oil Co.'s No. 1 Campbell Est., 446 ft. from S and 630 ft. from W of Sec. 180, Dist. No. 11, S.P.R.R. Sur. — Drlg. 1,290 ft.; show oil 1,205 ft.
Phillips Pet. Corp.'s No. 1 Guiden, 1,250 ft. from N and 1,583 ft. W of Sec. 77, James Webb Sur. — Drlg. 3,375 ft.
E. W. Wiley et al's No. 1 Maier, 200 ft. from E, 110 ft. from N, Sec. 6, Blind Asylum Land — Show oil 418-20 ft.; total depth 632 ft.

UPTON COUNTY

Cordova Union Land Co.'s No. 1 fee, 330 ft. from S and E line of Sec. 1, Blk. 1, M.-K.-T.R.R. Sur. — Location.
Gulf Prod. Co.'s No. 1 King Ranch Oil & Lignite Co., 330 ft. from S and 990 ft. from W line Sec. 28, Blk. 2, M.-K.-T. Sur. — Location.
Penn & Shell Pet. Corp.'s No. 1 Anderson, 1,320 ft. from S and E Sec. 37, Blk. Y, C.C.S.D.&R.G.N.G. — Location.

VAL VERDE COUNTY

A. Bluhm's No. 1 Yoast, 1,760 ft. N, 600 ft. W of NE cor., Sec. 31, Blk. 3, I.&G.N. Sur. — Location.
Independent Operators' No. 1 Whitehead, SE SE, Sec. 30, Blk. 4, I.&G.N. Sur., elev. 1,175 ft. — Shut down 5,360 ft.
O. O. Owen's No. 1 Mills, Sec. 128, Blk. 1, I.&G.N. Sur., elev. 2,130 ft. — Shut down 6,760 ft.
Phantom Oil Co.'s No. 1 Ingram, 175 ft. W of E line and 300 ft. N of S line, Sec. 33, Blk. D-3, E.L.&R.R. Sur. — Show oil 1,525 ft.; fishing 3,035 ft.
Valvert Oil Corp.'s No. 1 Bassett, C NE, Sec. 47, Blk. Y — Shut down 4,009 ft.

WARD COUNTY

Atlantic Oil Prod. Co.'s No. 1 Reynolds & Miller, 330 ft. from NE and NW Sec. 15, Blk. 32, H.&T.C. — Drlg. 750 ft.
Bradford et al's No. 1 Murry, 1,782 ft. from NW and 2,157 ft. from SW, Sec. 11, Blk. 5, H.&T.C. Sur. — Drlg. 2,020 ft.
Gulf Prod. Co.'s No. 5 Hutchings, 330 ft. from S and W Sec. 3, Blk. P, G.&M.M.B.&A. Sur. — Cem. casing 2,436 ft.
Gulf Prod. Co.'s No. 3 Wristen Bros., 220 ft. NE of SW and 220 ft. SE of NW Sec. 18, Blk. 5, H.&T.C. Sur. — Show gas 1,960-70 ft.; filling up with sulphur water 2,520-77 ft.; salt water 2,545 ft.; plugged back to 2,477 ft.
Gulf Production Co.'s No. 13 O'Brien, 330 ft. from S and 2,310 ft. from W Sec. 6, Blk. F, G.M.M.B.&A. — Drlg. 820 ft.
Gulf Production Co.'s No. 14 O'Brien, 330 ft. from S and E, Sec. 15, Blk. F — Drlg. 1,085 ft.
Magnolia Pet. Co.'s No. 1 Sealy, 330 ft. from S and E of NE cor., Sec. 46, Blk. 2, G.&M.M.B.&A. Sur. — Drlg. 1,040 ft.
R. F. Owens' No. 1 Johnson, 100 ft. from NE and 1,100 ft. from SE of Sec. 8, Blk. 33, H.&T.C.R.R. Sur. — Shut down 1,200 ft.
Penn and Atlantic's No. 1-B Pecos Mercantile Co., 990 ft. from NW and 2,310 ft. from NE, Sec. 16, Blk. 34, H.&T.C. Sur. — Shut down 2,605 ft.; top pay 2,357 ft.; 2,000 ft. oil in hole.
Richardson et al's No. 4 O'Brien et al, 330 ft. from N and 2,340 ft. from W, Sec. 5, Blk. F, G.M.M.B.&A. — Drlg. 2,361 ft.
Tex-Oil Prod. Co.'s No. 1 Redman, 1,980 ft. NE of SW line and 1,980 ft. SE of NW line, Sec. 152, Blk. 34, H.&T.C.R.R. Sur. — Shut down 5,077 ft.; show oil 5,070 ft.; shot 140 qts. from 5,047-77 ft.; no results.
Shipley et al's No. 5 Hayzlett, assume common line Secs. 16 and 17 is N and S, 220 ft. S and 1,910 ft. W, Sec. 17, Blk. 5 — Standard rig.
Shipley et al's No. 1 Monroe, 330 ft. SE SW Sec. 3, Blk. 1 — Shut down 2,520 ft.
J. E. Smith's No. 1 Clement, 152 ft. SW of NE line and 153 ft. SE of NW line, Lot 7, Sec. 7, Blk. 32, H.&T.C.R.R. Sur. — Shut down 2,230 ft.; estimated 1,000,000 ft. gas; flowed 8 bbls. oil and 30 bbls. water per day.
T. P. Coal & Oil Co.'s No. 1 Barker, 330 ft. from SW and NW of Sec. 27, Blk. B-29, Public School Land — Drlg. 85 ft.

WINKLER COUNTY

Atlantic & Maxwell's No. 1 Daugherty, 1,650 ft. from S and 2,310 ft. from E, Sec. 16, Blk. 74, Public School Land — Top pay 3,027 ft.; 1-hr. test 521 bbls.; total depth 3,081 ft.
Magnolia Pet. Co.'s No. 3 Scarborough, 1,650 ft. from N and 990 ft. from W of Sec. 1, Blk. 77, Public School Land — Rig up.
A. W. Phillips' No. 2 Brown et al, 2,000 ft. S and W of NE, Sec. 4, Blk. B-5, Public School Land — Shut down 3,120 ft.
Liner Drlg. Co.'s No. 1 Campbell, 330 ft. from N and E cor., Sec. 2, Blk. B-5 — Shut down 4,510 ft.
Shell and The Texas Company's No. 1-B Cowden, 600 ft. from S and W of Sec. 39, Blk. B-5, Public School Land — Shut down 3,116 ft.; top pay 2,585 ft.; flowing 124 bbls. per day, 40 per cent water.
Simms Oil Co.'s No. 1 Sealy, C of SE, Sec. 49, Blk. F, G.M.M.B.&A. Sur. — Shut down 2,941 ft.
Turman et al's No. 1 Daugherty, 2,310 ft. from E and 2,310 ft. from S line, Sec. 16, Blk. 74, Public School Land — Location.

WILDCAT OPERATIONS IN TEXAS PANHANDLE

(Continued from Page 72)

Saulsbury et al's No. 1 Sheridan, 330 ft. S and E, W½ NE, Sec. 184, Blk. B-2, H.&G.N. Sur. — S.G. 2,805-15 ft.; S.O. 2,835-45 ft.; S.D. 3,095 ft.; swbng. 35 bbls. oil per day.
W. A. Scott's No. 1 Cobb, 330 ft. S, 425 ft. W, N½ SE, Sec. 184, Blk. 3, I.&G.N. Sur. — Drlg. 2,346 ft; 20,000,000 ft. gas from 2,335-40 ft.
Shamrock O. & G. Co.'s No. 1 Reynolds, 330 ft. N and E, SE SE, Sec. 84, Blk. 3, I.&G.N. Sur. — Rigging up.
Smith's No. 1 Morse, 200 ft. S, 330 ft. W, Sec. 6, Blk. 26, H.&G.N. Sur. — 3,000,000 ft. gas 2,150-70 ft.; S.D. 2,795 ft.; 400 ft. oil in hole.
Sullivan et al's No. 1 Morse, 150 ft. W, 330 ft. S, N½ SW, Sec. 16, Blk. A-9, H.&G.N. Sur. — U.R. 8¼-in. csg. 1,755 ft.
Southern Explin. Co.'s No. 2 Vaughn, 330 ft. S and E, SW, Sec. 138, Blk. 3, I.&G.N. Sur. — Rigging up.
The Texas Co.'s No. 2 Brown, 170 ft. N, 330 ft. E, NW, E½ NE, Sec. 138, Blk. 3, I.&G.N. Sur. — Drlg. 2,740 ft.
Tedesco Oil Co. et al's No. 1 Morse, 330 ft. N and W, NE SW, Sec. 1, Blk. 26, H.&G.N. Sur. — S.D. 2,522 ft; shot and hole bridged.

HUTCHINSON COUNTY

Dixon Creek Oil Co.'s No. 1 Johnson Bros., 330 ft. N and W of E 60 ac. of NW 100 ac., Sec. 1, Blk. X03, H.&O.B. Sur. — Drlg. 250 ft.
Great Plains O. & G. Co.'s No. 1 Sanford, C of S 160 ac. of N 320 ac., Sec. 87, Blk. 46, H.&T.C. Sur. — Drlg. 1,315 ft.
Holmes et al's No. 3 Quinn, 330 ft. S and W, Sec. 7, Blk. 9, I.&G.N. Sur. — Drlg. 2,680 ft.
Huber & Co.'s No. 1 Christian, 330 ft. E, 990 ft. N, SW Sec. 33, Blk. Y, A.&B. Sur. — C.O. 3,019 ft.
Huber Prod. Co.'s No. 1 Johnson Bros., 330 ft. N and E, E½ NW, Sec. 30, Blk. Y, A.&B. Sur. — Rigging up.
Huber Prod. Co.'s No. 1 Johnson Bros. (Pure), 330 ft. S and E of E 240 ac., Sec. 29, Blk. Y, A.&B. Sur. — Spudded.
Phillips Pet. Co.'s No. 1 Herring, 330 ft. N and E, W½, Sec. 7, Blk. X02, H.&O.B. Sur. — Drlg. 2,420 ft.
Phillips Pet. Co.'s No. 1 Pease, 330 ft. S and E, Sec. 9½, Z. E. Collier Sur. — Fishing 945 ft.
Sinclair O. & G. Co.'s No. 1 Johnson Bros., 330 ft. N and E, NW, Sec. 32, Blk. Y, A.&B. Sur. — S.G. 2,230-54 ft.; S.D. 2,905 ft.; 39,000,000 ft. gas 2,340 ft.
Sinclair O. & G. Co.'s No. 1-C Johnson Bros., 330 ft. N and W, NE, Sec. 32, Blk. Y, A.&B. Sur. — Drlg. 210 ft.
Skelly Oil Co.'s No. 1 Johnson Bros., 660 ft. S and W, SE, Sec. 30, Blk. Y, A.&B. Sur. — S.O. 3,065 ft. and 3,108-10 ft.; S.D. 3,110 ft.
Spurlock et al's No. 1-A Christian, 440 ft. S, 330 ft. W, NE cor. SE SE, Sec. 33, Blk. Y — 60,000,000 ft. gas; S.D. 3,219 ft.
Stanysivania Oil Co.'s No. 1 Whittenburg, 330 ft. S and W, Sec. 129, Blk. Z, E.L.&R.R. Sur. — Drlg. 1,545 ft.

LIPSCOMB COUNTY

Brown et al's No. 1 Box T Ranch, SW NE, Sec. 612, H.&T.C. Sur. — S.G. 3,760 ft.; S.D. 4,142 ft.
Okla. Public Service Co.'s No. 1 C. W. Jones, NE SW, Sec. 100, H.&T.C. Sur. — Lowering 5 3/16-in. csg.; T.D. 5,003 ft.

LUBBOCK COUNTY

Center Oil Co's No. 1 Bowles Ranch — Small S.O. 1,133-40 ft.; S.D. 4,167 ft.

MOORE COUNTY

Delmar Oil Co.'s No. 1 Jones, 990 ft. E, 330 ft. N, NW, Sec. 171, Blk. 3-T, T.&N.O. Sur. — Rebldg. rig 3,010 ft.
Gulf Prod. Co.'s No. 1 Kilgore, C SW, Sec. 22, Blk. P.Mc., E.L.R.R. Sur. — Gas estimated 15,000,000 ft. 3,050-60 ft.; T.D. 3,645 ft.; to complete as gasser.
Shamrock O. & G. Co.'s No. 1 Shory, 330 ft. N and W, NE, Sec. 187, Blk. 3-T, T.&N.O. Sur. — 35,000,000 ft. gas 2,880-3,050 ft.; S.O. 3,472 ft.; spraying 50 bbls. per day from 3,498-3,503 ft.; T.D. 3,533 ft.; P.B. 3,519 ft.; shot with 50 qts. from 3,495-3,519 ft.; C.O.
Texas P. L. Co.'s No. 1 Sneed, Jr., C NE, Sec. 46, Blk. 6-T, T.&N.O. Sur. — S.D. 2,695 ft.
Texas Interstate P. L. Co.'s No 1 Sneed, Jr., C NE, Sec. 48, Blk. 6-T, T.&N.O. Sur. — Location.

MOTLEY COUNTY

Matador Oil Corp.'s No. 1 Owens, C NE, Sec. 10, Blk. G, B.&B. Sur. — S.D. 580 ft.

OLDHAM COUNTY

Chambers et al's No. 1 Herring, CNL, Sec. 29, Blk. S, G.C.&S.F. Sur. — Rigging up.

POTTER COUNTY

Canadian River Gas Co.'s No. 1 McBride estate "A," 4,950 ft. S, 330 ft. W, E½ S½, Sec. 98, Blk. 46, H.&T.C. Sur. — Drlg. 1,745 ft.
Texas Interstate P. L. Co.'s No. 1 Masterson, C S 160 ac., Sec. 85, Blk. 3, G.&M. Sur. — Drlg. 2,135 ft.

RANDALL COUNTY

W. A. Patterson's No. 1 Palo Duro, Sec. 60, Blk. K-14 — S.D. 1,250 ft.

ROBERTS COUNTY

Big Bend Oil Co.'s No. 1 Ledrick, Sec. 7, Blk. A-5 — Shot 10 qts. 5,270-93 ft.; S.O. 5,283 ft.; S.D. 5,993 ft.

WHEELER COUNTY

Davis et al's No. 1 Stuckey, C NE SW, Sec. 92, Blk. 17, H.&G.N. Sur. — Drlg. 1,175 ft.
Johnson et al's No. 2 Hicks, 890 ft. W, 990 ft. S, Sec. 49, Blk. 17, H.&G.N. Sur. — 15,000,000 ft. gas 1,810-1,906 ft; S.D. 1,920 ft.
Lone Star Gas Co.'s No. 1 Krizan, C SW SW, Sec. 101, Blk. 33, H.&G.N. Sur. — Drlg. 1,596 ft.
Magnolia Pet. Co.'s No. 2 Worley, 330 ft. N and W, NE, Sec. 39, Blk. 24, H.&G.N. Sur. — Drlg. 1,300 ft.
McGee et al's No. 1 Jolly, C NE, Sec. 15, Blk. A-8, H. &G.N. Sur. — T.D. 2,030 ft.
Murchison & Fain's No. 2 Grogan, C SW SE, Sec. 73, Blk. 23, H.&G.N. Sur. — Drlg. 1,795 ft.
Murchison & Fain's No. 1 Hanes, C NW NW, Sec. 31, Blk. 17, H.&G.N. Sur. — Rigging up.
Wischkamper et al's No. 1 Kiser, 330 ft. N and E of SW, Sec. 33, Blk. 17, H.&G.N. Sur. — S.D. 1,935 ft.
Woodley et al's No. 1 Sloss & Admire, 660 ft. N, 330 ft. E, Sec. 47, Blk. 13, H.&G.N. Sur. — Drlg. 1,280 ft.
Vollmert's No. 1 Porter, 330 ft. S and E, NE, Sec. 15, Blk. 27, H.&G.N. Sur. — S.D.

WILDCAT OPERATIONS IN SOUTHWEST TEXAS

(Continued from Page 55)

Houston Oil Co.'s No. 2 Wermser, 200 ft. N of CSL, 964-ac. tract in the P. Maguellas Sur. ..... Reported as wildcat in error.

Humble Oil & Ref. Co.-Shell Pet. Corp.'s No. 2 Wm. Singers, 1,320 ft. W of E line, 1,800 ft. S of N line of Sec. 312, Alta Verde area, 7 miles SE from Lasater gas field ..... T. D. 4,773 ft.; gas sand.

Southern Crude Oil Purchasing Co.'s No. 1 Holbein-Wormser, 990 ft. from E line, 1,000 ft. from S line of Blk. 39, E. P. de Moguellas Sur. ..... T. D. 1,731 ft.; drlg. shale.

BEE COUNTY

William F. Morgan and Independent Oil & Gas Co.'s No. 1 Quincy, C Blk. 9 of 11,000-ac. Quincy Subd. of Bee County ..... T. D. 4,030 ft.; drlg.

O'Neal & Catlett's No. 1 Pat Pugh ..... Location.

Simms Oil Co.'s No. 1 Halzmark, 830 ft. SE line ,2,952 ft. SW line of J. A. York Sur. ..... T. D. 3,510 ft.; drlg.

S. R. C.'s No. 1 Theis, 2,700 ft. from N line, 300 ft. from W line of 782-ac. tract, Burns Sur. ..... T. D. 2,780 ft.; drlg. shale.

E. S. Price's No. 3 Weiss, 900 ft. due NE of No. 1 Weiss. Location.

E. S. Price's No. 2 Weiss, 900 ft. due SW of No. 1 Weiss, B&B Sur. ..... Derrick completed.

Cosden Oil Co.'s No. 1 Stoltzfus, 2,310 ft. to S and E lines of Sec. 14, Ragley Subdn. of C. Miller ranch, Uranga Sur. ..... Derrick.

Humble and Hurlbut and others' No. 1 J. C. Wood, 150 ft. from NW line, 1,144 ft. from SW line of P. T. Irrigation Co. ..... T. D. 1,940 ft.; drlg. in shale.

BEXAR COUNTY

Moore-Jauer's No. 1 Holly R. Ellison ..... T.D. 2,155 ft; fishing.

K. M. S. Petroleum Co.'s No. 1 E. Salicky, 132 ft. from E line, 10 ft. S line of tract, Blk. 15, Mission Gardens ..... Location.

J. M. Russell's No. 1 F. L. Price, 1,590 ft. to N line, 660 ft. W line of tract in Angel Navarro Sur..... T.D. 50 ft; S.D.

J. M. Russell's No. 1 A. O. Miles, 1,600 ft. N line, 600 ft. W line 450-ac. tract, Angel Navarro Sur., 10 miles S from San Antonio ..... T.D. 735 ft; moving in.

Henry Yelvington et al's No. 1 Beck, 365 ft. from W line, 310 ft. from S line 100-ac. tract, SW cor. of P. W. Hays Sur., 7 miles E from San Antonio ..... T.D. 1,470 ft; S.D.

Snyder, Reeves and others' No. 2 Glasscock, 12 miles NE of San Antonio ..... T.D. 200 ft; drlg.

August Magel's No. 1 Alvin Beck, 520 ft. from W line, 1,300 ft. from S line of Sur. No. 36 ..... Location.

C. S. Bowman's No. 1 Riddler, 1,000 ft. from S and W lines of 700-ac. tract, Block 4,311, Sur. No. 5..... Completed for 20 bbls.

Penn Oil Co.'s No. 1 Cooksey, 1,150 ft. to E line, 150 ft. to N line of survey, J. Riall Sur. ..... Moving in machinery.

CALDWELL COUNTY

W. E. Allaun's No. 1 Cosey, SW cor. of tract ..... Location.

W. E. Allaun's No. 2 McKean, 300 ft. W of No. 1..... Location.

Matthews and others' No. 1 Osteen, 150 ft. E of M.K.T. tracks, 150 ft. N of S line of lease, N. Kelley Sur..... T. D. 700 ft.; drlg.

J. T. Callahan's No. 2 W. H. Callahan ..... T. D. 800 ft.; drlg.

Batts and others' No. 1 E. P. Roefur ..... Rigging up.

CALHOUN COUNTY

The Texas Company's No. 1 Thomas in the J. D. Tilly Sur. ..... T.D. 4,050 ft; drlg.

COMAL COUNTY

Caldwell & Lanier's No. 1 T. J. Byler, 175 varas from W line, 370 varas from N line of 320-ac. tract in the H.E.&W.T. No. 5,894 Sur. ..... T. D. 135 ft.; drlg.

New Braunfels Oil & Gas Co.'s No. 1 Adolph Seidemann, 269 ft. to NE line, 470 ft. to NW line of farm in the A. M. Esneuricas 11-League Sur., 1 mile SE from New Braunfels ..... T. D. 1,482 ft.; drlg. in Edwards.

DEWITT COUNTY

H. T. Roe's No. 1 Leinhardt ..... T.D. 2,170 ft; S.D.

DUVAL COUNTY

Vacuum Oil Co.'s No. 1 Duval County Ranch Co., 3,143 ft. N line, 1,368 ft. S line, Sur. 220 ..... Drlg. wtr. well.

Sal Oil & Gas Co.'s (Southern Oil Co.) No. 2 Welder-Wood, 1,980 ft. E line, 2,490 ft. N line, Sur. 215..... T. D. 2,500 ft.; standing.

T. W. Callahan and W. M. Howard's No. 1 J. M. Luby, 3,960 ft. N line, 3,960 ft. W line, Sur. 24..... T. D. 4,024 ft.; dry and abandoned.

Sloan and others' No. 1 Luby, SW cor. of Survey 593... Location.

EDWARDS COUNTY

Phillips Pet. Corp.'s No. 2 A. G. Holman, 320 ft. from N and E lines of SE of tract, C.C.S.D.&N.G.R.G. Sur. No. 25 ..... T. D. 4,685 ft.; showing gas.

James Dalgish's No. 3 Peterson, 850 ft. N line, 1,100 ft. W line of Sec. 82, Blk. E in the H.E.&W.T. Sur... Location.

James Dalgish-Morrow's No. 1 Peterson, NW cor., Sec. 82, Blk. E, H.E.&W.T.R.R., NE cor. of county in the H.E.&W.T.R.R. Sur. ..... T. D. 2,700 ft.; fishing.

FRIO COUNTY

Simms Oil Co.'s No. 1 ..... Location.

A. H. Wray's No. 1 Burns estate, 700 ft. N, 330 ft. E of C Sec. 123, Antone Hupzor ..... T. D. 1,035 ft.; drlg. shale.

GOLIAD COUNTY

Union Prod. Co.'s No. 12 George Ray, 2,350 ft. SW of NE line, 330 ft. NW of SE line, George A. Ray 400 ac. in the Wm. Southerland Sur. ..... T. D. 5,134 ft.; drlg.

A. G. Riemenschneider's No. 1 A. T. Fromme, 275 ft. from N line, 912 ft. W line of 300-ac. tract, P. Dexeter Sur ..... T.D. 2,430 ft; standing.

GONZALES COUNTY

Mardon Oil Co.'s No. 1 Borrer, 150 ft. N and W in the James Stewart Sur., 5 miles NW from Waelder..... T.D. 1,850 ft; S.D.

Mardon Oil Co.'s No. 1 Robinson ..... T. D. 3,284 ft.; waiting for orders.

Linden Pet. Corp.'s Uo. 1 Hensley, 650 ft. N line, 1,110 ft. W line of J. W. Hensley 100 ac. in the James Smith ..... T. D. 4,120 ft.; drlg. shale.

Lake Oil Co.'s No. 1 A. V. Campbell ..... Rigging up rotary tools.

United North & South Dev. Co.'s No. 2 Preston, 1,050 ft. NE, 450 ft. NW of upper S or SW cor. of Oethkin one-third league, 900 ft. SE of Prestin No. 1.... Location.

A. J. Keiffer et al's No. 1 B. B. Dix, 550 ft. W of E line, 2,775 ft. N of S line (Guadalupe River) in the Ira Nash Sur., 4 miles SE from Darst Creek ..... T.D. 2,816 ft; hole cleaned; resumed drlg; now coring.

GUADALUPE COUNTY

Guy Lewis' No. 1 Arno Link ..... T. D. 847 ft.; rigging up.

Cranfill & Reynolds' No. 1 McIntire, 150 ft. to E line, 150 ft. to S line of 100-ac. tract in the A. Gibson Sur., 6 miles SE from Seguin ..... T. D. 2,352 ft.; dry and abandoned.

J. S. Suttle's No. 2 A. Baenzinger, 40 ft. E line, 150 ft. S line of tract in the A. O. Mansola Sur., 5½ miles S from Seguin ..... T. D. 700 ft.; drlg.

Grayburg Oil Co.'s No. 2 Wells, 5,730 ft. E line, 2,490 ft. S line of NE cor. of Wells tract in the James D. Baume Sur., 6 miles SW from Darst Creek ..... T. D. 2,625 ft.; drlg. shale.

Cranfill & Reynolds' No. 1 Wilson, 150 ft. S line, 1,200 ft. to W line 92-ac. tract in the Jesus Canter Sur., 8 miles SE from Seguin ..... Location dropped.

Brown Hinds et al's No. 1 George Altzger, 1,300 ft. from SE line, 1,100 ft. from SW line of 120-ac. tract in A. Mansola Sur. ..... T.D. 1,975 ft; S.D. in Del Rio.

Ray Oil Co.'s No. 1 R. Felsing, 300 ft. NW line, 450 ft. NE line, 120-ac. tract in the M. Baker Sur. ..... T. D. 900 ft.; drlg. Del Rio.

Miller & Calhoun's No. 1 Lindenberger, 750 ft. from E line, 650 ft. from S line of 250-ac. tract ..... T. D. 942 ft.; reaming at 850 ft.

J. O. Dore's No. 1 Appling, 150 ft. to S and W lines of tract, H. Cottle Sur. ..... T. D. 2,364 ft.; drlg.

HAYS COUNTY

Bailey & Whittington's No. 1 Heidenrich ..... T.D. 735 ft.; shut down.

JACKSON COUNTY

The Texas Company's No. 1 Mitchell, 1,750 ft. E, 880 ft. N of SW cor. Ewing Sur. ..... T. D. 6,044 ft.; drlg.

JIM HOGG COUNTY

Cole Petroleum Co.'s No. 1 Allen, 150 ft. from W line, 336 ft. from N line, Blk. 7, Sur. No. 23 ..... Location.

Wm. H. Barnhart's No. 1 McCampbell, 450 ft. to W line, 150 ft. to N line, Lot 33, Barnhart Subdivision, Los Viboritas grant ..... Derrick.

E. E. Watts' No. 1 Gomez, 4,200 ft. to N line, 1,400 ft. to E line of Survey 125 ..... T. D. 200 ft.; drlg.

JIM WELLS COUNTY

J. Walsh et al's No. 1 W. D. Wade, 1,035 ft. NE line, 300 ft. NW line of N cor., Lot 1, Blk. C, W. H. Bode Subd. ..... T.D. 210 ft.; set 10-in. surface csg.; waiting on cement.

KARNES COUNTY

Clayton & Pierce's No. 1 Barnett in the Alex Hunter Sur., 6 miles N of Karnes City ..... T. D. 2,916 ft.; waiting on title.

J. F. Morrissey et al's No. 1 Ragsdale, 660 ft. SW of C of NE line of 170-ac. farm in the McCoull Sur..... T.D. 1,380 ft.; resumed drlg. (corrected depth).

Dr. Hewitt's No. 1 W. E. Porter, 650 ft. from N line, 700 ft. from W line of 416-ac. tract in the Victor Blanco Sur., 8 miles SE from Runge ..... T. D. 2,700 ft.; shut down.

KENDALL COUNTY

Borgett et al's No. 1 Haag, W Avery Sur. ..... T.D. 940 ft.; drlg.

A. S. Mowinkle's No. 1 Kaston, 150 ft. from N line, 150 ft. from E line of tract, Sur. No. 724, 9 miles due W of Kendalia ..... T.D. 900 ft.; drlg.

Sitten et al's No. 1 Garvin, C of NE of D. L. Richardson Sur. in the D. L. Richardson Sur., 1 mile NE from Kendalia ..... T.D. 710 ft.; drlg.

Dickinson et al's No. 1 Edmondson, 150 ft. from S line, 350 ft. from W line of tract in the J. O. Blair No. 72 Sur., 1 mile NW from Kendalia ..... T.D. 40 ft.; spudded in and shut down.

Dixon Oil Co.'s No. 1 Ottmer Behr, W of H.T.&B.R.R. Sur., 3½ miles SE from Sisterdale ..... T.D. 1,790 ft.; drlg.

P. B. Sterling's No. 1 R. J. McCrocklin, 1,350 ft. from N line, 250 ft. from W line of the B. G. Owens Sur., 4 miles W from Kendalia ..... T. D. 845 ft.; shut down.

R. M. Perkins' No. 1 J. Lawhon, Sec. 10, 2,475 ft. E line, 1,488 ft. S line ..... T.D. 550 ft.; drlg.; have hauled out 800 ft. of 8-in. csg.

Permian Basin Oil Co.'s No. 1 Boles, S.A.&M.G. Ry. Sur. No. 542½ ..... Moving in machinery.

KERR COUNTY

Evans et al's No. 1 Love Ranch, 100 ft. from S line Sur. 1,597, 1,000 ft. E of W line of J. Martinez No. 1,594 Sur. ..... T. D. 1,500 ft.; drlg.

KLEBERG COUNTY

Bowen & Sarles' No. 1 Robert, H. Simmons in the A. Houston Sur. No. 611, Sec. 7, King Subd., 150 ft. out of NW cor. of SW ..... T.D. 1,380 ft.; shut down; W.O.C.

KINNEY COUNTY

Magnolia Pet. Co.'s No. 1 Whitehead-Wardlaw, 2,640 ft. W line and S line of Meliton Valdez grant ..... T. D. 3,100 ft. (corrected); drlg.

Mardon Oil Co.'s No. 2 Jim Clamp ..... T.D. 2,714 ft. in hard sand; coring.

A. Blume et al's No. 2 Herbst, 1,731 ft. W and S lines of Sur. in the Poindexter-Burns Sur. ..... T.D. 275 ft.; shut down.

KIMBLE COUNTY

Lindley Bros.' No. 1 Anderson, Sec. 178, Mubenger Sur... T.D. 990 ft.; shut down.

Dixie Oil Co.'s No. 1 Bodel, 900 ft. W of N line of Sec. 440, in Sec. 80, in the J. S. Patterson Sur. ..... Location.

C. L. Bryant et al's No. 1 Lambert, 7,700 ft. N and W lines of F. Lotta Sur. ..... T.D. 685 ft.; shut down.

LIVE OAK COUNTY

Catlett & O'Neil's No. 1 Pat Pugh, 620 ft. S line, 150 ft. E line of Pugh tract, Abstract 189, in the E. Games Sur. No. 253, 6 miles N from Dinero ..... Location.

Jacob, Buzzini & Pickett, Inc.'s No. 1 C. E. Kay, in the Bridgett Fadden Sur., 3 miles E from George West.. Location.

O. Stalley et al's No. 1 Nichols, 2,000 ft. from W line, 500 ft. from S line in the Ayers Sur. ..... Location.

Illinois Exploration Synd.'s No. 1 Reeves-Brown, 1,300 ft. S. of Sellera tract, 1,800 ft. E of Ry. ..... Location.

Penn Oil Co.'s No. 1 Lyne, 900 ft. to W line, 330 ft. from S line of Sec. 69 on Devonian block ..... Rigging up.

LEE COUNTY

Burt et al's (M. D. Rickett) No. 1 R. C. Sanders ..... T.D. 2,810 ft.; shut down in shale.

Fedor Oil Co.'s No. 1 Aug. Schimank ..... T.D. 2,247 ft.; tem. abandoned.

A. H. Wheeler and associates' No. 1 Fee, 14 miles NE from McDade, Blk. 47, Donohoe Sur. ..... T. D. 500 ft.; standing.

J. P. Perry and others' No. 1 W. H. Thomas ..... T. D. 735 ft.; shut down.

McMULLEN COUNTY

Mogul Pet. Co.'s No. 1 Martin, 150 ft. NW line, 150 ft. to SW line of E. Melon No. 212 Sur. ..... T. D. 28 ft.; set surface csg.

Sheree, Brodie and Emick's No. 1 Shiver, Henry Brewer Sur. ..... Location.

MAVERICK COUNTY

Rycade Oil Corp.'s No. 6 Chittim, 1,445 ft. from S, 320 ft. from W of Sec. 116, Blk. 7, I.&G.N. Sur. ..... T. D. 3,475 ft.; standing.

Rycade Oil Corp.'s No. 5 Chittim, 600 ft. W of No. 3 Chittim, 500 ft. E line, 225 ft. from S line of SE Sec. 115, Blk. 7, in the I.&G.N. Sur. ..... T.D. 4,675 ft.; drlg.

Rycade Oil Corp.'s No. 5 Sullivan, in C of Sec. 82, Blk. 7, in the I.&G.N. Sur. ..... T. D. 7,622 ft.; drlg. lime.

MEDINA COUNTY

Pat Armstrong's No. 1 C. W. Butts, in George C. Hanson Sur. ..... T. D. 1,918 ft.; dry and abandoned.

B. F. Newhaus et al's No. 1 Fusselman, 200 ft. E and S lines of tract (320-ac.) in the M. Castro Sur. .... T. D. 1,715 ft.; drlg. in Georgetown.

Pan American Dev. Co.'s No. 1 Antonio Hart, in Harrison Sur. No. 799, 15 miles S from Hondo ..... T. D. 2,234 ft.; abd., dry; T. E. 2,180 ft.

National Oil Co.'s No. 1 Howard, 1,750 ft. E of W line, 1,854 ft. N of S line of survey in the John George Sur. No. 9, 10 miles S of Dunlay ..... T. D. 1,645 ft.; standing.

Caldwell et al's No. 1 L. W. Burrell ..... T.D. 2,167 ft.; drlg.

Donaldson Oil & Dev. Co.'s No. 2 Hillenmeyer, James Hillenmeyer No. 25 Sur., 500 ft. to E line of survey, 150 ft. to S line of N half of survey ..... T.D. 200 ft.; shut down.

Pat Armstrong's No. 1 Crawford, 1,389 ft. N line, 2,550 ft. E line of survey, 478.6 miles W of Devine..... T. D. 1,970 ft.; drlg.

Lyuko Co.'s No. 1 Medina Valley Irrigation, 2,800 ft. to S line, 2,250 ft. to E line of E. Reisacher Sur. No. 509. T. D. 500 ft.; drlg.

United North & South Dev. Co.'s No. 1 Little, S from D'Hanis and near S line of county ..... Location.

MILAM COUNTY

Rheubotham & Tate's No. 1 Johnson, 325 ft. from N line, 250 ft. from W line of 40-ac. tract, D. Robinson Sur. ..... Derrick.

Kyser, Roberts & Rubble's No. 2 Mrs. V. Ward, 2,500 ft. to NW line, 6,150 ft. to SW line of Levi Taylor Sur. ..... Location abandoned.

NUECES COUNTY

Independent Oil & Gas Co.'s No. 1 Baldwin, 330 ft. each way out of NE of the J. C. Russell Subd., Blk 11, 3 miles W from Corpus Christi ..... T. D. 4,065 ft.; topped lime.

Houston Oil Co.'s No. 1 Morgan, 105 ft. N of C of tract.. Laying water line.

REAL COUNTY

McGinley Corp.'s No. 1 Haby, C of SW, Sec. 175 ..... Spudded.

SAN PATRICIO COUNTY

Magnolia Pet. Co.'s No. 1 Freeman, 660 ft. S and W lines of NW half of 80-ac. tract, Sec. 57, in the E. J. McGloin Sur. ..... T.D. 5,526 ft.; previously reported as completed; now rigged up to drill deeper.

George B. Pickett's No. 1 Baldwin, 9,000 varas due E of Denton, 1,200 ft. S of the SE cor. of O'Neil's Sur., Abstract 211 ..... T.D. 4,012 ft.; moving in heavy rig to go to 6,000 ft.

J. L. Kennedy's No. 1 McRae, 1,170 ft. NW of the center of the SE line of 500-ac. tract ..... Building derrick.

Saxet Oil Co.'s No. 1 Carroll, 800 ft. N line, 130 ft. to W line, Lot 32-A, Sec. 32 of the fourth subd., Taft farms ..... Moving in tools.

Union Prod. Co.'s No. 4 Welder, 3,000 ft. N line, 4,500 ft. E line of tract in the E. Portilio Sur. ..... T. D. 2,568 ft.; drlg. shale.

G. B. Peterman et al's No. 1 Crow, 150 ft. from S line, 170 ft. from W line of Sec. 24 of the Fulton-Coleman Pasture Lands, J. H. Paul Subd. ..... T. D. 2,000 ft.; drlg.

G. B. Peterman et al's No. 1 Foster, 150 ft. from E line, 1,420 ft. from N line of Blk. 5 of the Welder-Coleman-Fulton Subd., 3¼ miles W from Sinton ..... Location.

Cosden Oil Co.'s No. 1 Schmoisteig, C of SE, Sec. 9, H. Powell Subd. in the B. Blanchard Sur. ..... T. D. 4,700 ft.; dry and abandoned.

LaFeria Oil & Gas Co.'s No. 1 C. C. Smith, in J. C. White Sur., 690 ft. to N line, 350 ft. to E line ..... T.D. 3,933 ft.; S.D. for fuel.

STARR COUNTY

I. V. Maclean's No. 1, Tract No. 5, 1,063-ac. Porcion 81, Juan Jose de la Garza in the Falcon grant ..... T. D. 238 ft.; dry and abandoned.

Kush Exptln. Co.'s No. 1 Kelsey-Bass, 150 ft. to W line, 750 ft. to N line, Por. 75, Blk. 9 ..... T. D. 425 ft.; drlg.

J. L. Smith's No. 1 Welch, Perdernal Sur. ..... T.D. 925 ft.; show gas in sand.

Virginia Oil Co.'s No. 1 Kelsey-Bass, 150 ft. to S line, 1,850 ft. to W line, Blk. 6, Por. 75, Courargo ..... Location.

TRAVIS COUNTY

Fox Oil Co.'s No. 1 W. Fuchs ..... T. D. 1,012 ft.; shut down.

E. R. Marts et al's No. 2 M. Bangston, 300 ft. to N line, 3,800 ft. to E line, H. Martin Sur. ..... T. D. 1,360 ft.; dry and abandoned.

UVALDE COUNTY

E. Anglin et al's No. 1 U.P.P., 1,500 ft. from NW line 7,450 ft. to NE line of Manual Leal Sur., 10 miles SE from Uvalde ..... T.D. 1,194 ft.; drlg. in lime.

Waldrop & Welch's No. 1 E. R. Edmonds, 1,750 ft. NW, 7,200 ft. W of Sec. 71, in the A. Gomez Sur., 8 miles S of Uvalde ..... T.D. 1,193 ft.; moving in heavier rig.

Phantom Oil Co.'s No. 1 Claudt, Sec. 611 ..... T.D. 2,450 ft.; fishing.

VICTORIA COUNTY

The Texas Co.'s No. 1 A. M. McFadden, 1,550 ft. N and E lines of H. Bonny Sur. ..... T. D. 3,900 ft.: drlg.

WEBB COUNTY

J. L. Elliott's No. 1 Esperanza Land & Stock Co., 950 ft. from N line, 2,231 ft. E line, Sur. 815 ..... T. D. 1,450 ft. (corrected); standing.

O. W. Killam's No. 1 Slator, 800 ft. to NW line, 300 ft. to SW line, Blk. 70, Slator pasture, Borrego grant ..... T. D. 1,480 ft.; drlg.

WILLIAMSON COUNTY

Texas Oil & Gas Development Co.'s No. 1 Gervert & Allison, 9 miles NE from Taylor ..... T. D. 40 ft.; shut down.

ZAPATA COUNTY

T. H. Ward's No. 1 Uribe, 150 ft. NW line, 150 ft. SW line, Blk. 8 Subd., Share 7, Partition No. 6, T. Uribe Partition of Jose V. Borrego Sur. ..... Rigging up.

B. F. Nixon's No. 1 A. Gutierrez, 170 ft. S line, 332 ft. E line, Lot 5, Blk. 8, Partition 10, Borrego grant ..... T.D. 50 ft.; standing.

Penny Prod. Co.'s No. 1 Juan V. Cuellar, Jr., et al, 175 ft. NE line, 175 ft. SE line Poppas Subd., Porcion 33 and 34, Blk. 1, Sur. 2 ..... T. D. 310 ft.; drlg.

Penny Prod. Co.'s No. 1 Trevino, 300 ft. SE line, 200 ft. NE line Marts & Beavers Subd. of Porcion 2 and 3, Blk. 6, Sur. 4 ..... T.D. 757 ft.; moving in heavier rig.

F. M. Blair & Son's No. 1 Guiterrez, 150 ft. from NW line, 660 ft. from SW line, Blk. 2, Blair Subd., Comitas grant ..... T. D. 600 ft.; drlg.

Lincoln Oil & Gas Co.'s No. 1 Gutierrez, Blk. 23, Subd., La Huerta grant ..... Rigging up; location corrected.

ZAVALA COUNTY

Krebs & Davis' No. 1 Weatherby, E center of NW of Sec. 44, Blk. A, Adams, Beaty & Mouton Sur., 4 miles E from Loma Vista ..... T.D. 1,782 ft.; drlg.

Ed Anglin's No. 5 Pryor ..... T.D. 1,034 ft.; drlg., (cor. depth).

Texas Gas Utilities Co.'s No. 1 Ike T. Pryor, Jr. ..... T. D. 1,190 ft.; drlg. shale.

Ed Anglin's No. 6 La Pryor ..... Location.

GULF COAST FIELDS AND WILDCATS

(Continued from Page 59)

Humble & Valley's No. 8 Woodley ..... Derrick.
Humble & Valley's No. 9 Woodley ..... Derrick.
Humble & Valley's No. 10 Woodley ..... Location.
Humble Oil & Ref. Co.'s No. 1 Hugo-Hagen ..... Rig.

DE WALT—FORT BEND COUNTY

Humble Oil & Ref. Co.'s No. 6 Camp ..... Comp. flowing 1,200 bbls. pipe line oil 3,615 ft.

HUMBLE—HARRIS COUNTY

Cullen West's No. 3 Burt, east ..... Location.
Cullen West's No. 5 Lee, south ..... Location.
John Deering's No. 1 Graf ..... Oil sand 4,464 ft.; cem. 6⅝-in. casing 4,410 ft.
LaRue, trustee's No. 1 Crane, northwest ..... Derrick.
M. LaRue, trustee's No. 1 Tuffly, northwest ..... Location.
Raybourn et al's No. 1 Cherry, west ..... Location.
Rio Bravo Oil Co.'s No. 5 Fee, west ..... Oil sand 3,759 ft.; cem. casing 3,732 ft.
Rio Bravo Oil Co.'s No. 6 Fee, west ..... Oil sand 4,335 ft.; cem. casing.
Rio Bravo Oil Co.'s No. 7 Fee, west ..... Rig.
Rio Bravo Oil Co.'s No. 1 E.&W.T., west ..... Comp. flowing 1,200 bbls. 4,306 ft.
Sun Oil Co.'s No. 11 Bender, west ..... No report.
Sun Oil Co.'s No. 13 Bender, west ..... Drlg. 3,326 ft.
Sun Oil Co.'s No. 14 Bender, west ..... Rig.
Sun Oil Co.'s No. 15 Bender, west ..... Location.
Sun Oil Co.'s No. 16 Bender, west ..... Location.
Sun Oil Co.'s No. 17 Bender, west ..... Location.
Sun Oil Co.'s No. 18 Bender, west ..... Location.
Sun Oil Co.'s No. 49 River, north ..... Total depth 4,486 ft.; strengthening hole.
Trapshooter Riley's No. 1 Long John Jones ..... No report.
The Texas Company's No. 2 Atlantic & Gulf, east ..... Drlg. gumbo and lime 2,750 ft.
The Texas Company's No. 1-B Fee ..... Drlg. gumbo and boulders 1,298 ft.
The Texas Company's No. 25 House, northeast ..... Rig.
The Texas Company's No. 43 Stevenson, east ..... Drlg. 3,621 ft.
West Production Co.'s No. 3 Foster, north ..... No report.
E. M. Wilson's No. 5 Pickins ..... Derrick.

BLUE RIDGE—FORT BEND COUNTY

Gulf Production Co.'s No. 18 Luscher, south ..... Comp. flowing 500 bbls. 4,174 ft.

PIERCE JUNCTION—HARRIS COUNTY

Gulf Production Co.'s No. 1 Manchester Corp. ..... Drlg. shale and lime 3,649 ft.
Rio Bravo Oil Co.'s No. 14-A Settegast ..... To work over.
Rio Bravo Oil Co.'s No. 20-A Settegast ..... Drlg. gumbo and lime 3,177 ft.
Saxet Oil Co.'s No. 8 Herman estate ..... Drlg. gumbo 2,061 ft.
Warner-Quinlan's No. 1 Minchen ..... Location.

LIBERTY—LIBERTY COUNTY

Empire Gas & Fuel Co.'s No. 13 O'Brien ..... No report.
The Texas Company's No. 7 Green, northwest ..... Total depth 4,486 ft.; sidetracking sticky shale 4,368 ft.

BIG CREEK—FORT BEND COUNTY

Gulf Production Co.'s No. 60 Davis ..... Rig.
Navarro Oil Co.'s No. 5 Davis ..... Rig.

LOST LAKE—CHAMBERS COUNTY

Pure Oil Co.'s No. 5 Lost Lake ..... Drlg. hard sandy shale 4,735 ft.

NASH—BRAZORIA COUNTY

Rycade Oil Corp.'s No. 27 Wisdom ..... Drlg. gumbo 4,480 ft.

SARATOGA—HARDIN COUNTY

Rio Bravo Oil Co.'s No. 90-A Colton ..... Drlg. sticky shale 450 ft.
Rio Bravo Oil Co.'s No. 93-A Colton ..... Comp. flowing 32 bbls. 551 ft.

GOOSE CREEK—HARRIS COUNTY

Humble Oil & Ref. Co.'s No. 78 Simms-Smith ..... Drlg. shale and sand 4,498 ft.

SPINDLETOP—JEFFERSON COUNTY

Yount Lee Oil Co.'s No. 17 McFaddin (workover) ..... Drlg. 3,698 ft.
Yount Lee Oil Co.'s No. 76 McFaddin (workover) ..... Comp. flowing 1,050 bbls. oil 3,740 ft.
Yount Lee Oil Co.'s No. 138 McFaddin ..... Coring shale and lime 6,264 ft.
Yount Lee Oil Co.'s No. 139 McFaddin ..... Drlg. shale and lime 5,431 ft.
Yount Lee Oil Co.'s No. 141 McFaddin ..... Drlg. sand and gravel 1,026 ft.

NORTH DAYTON—LIBERTY COUNTY

Victor Oil Co.'s (V. H. Borsodi) No. 2 Gulf ..... Drlg. sand and shale 5,036 ft.
Saxet Oil Co.'s No. 3 Wilhite ..... Drlg. gumbo and lime 3,735 ft.
Harrison Oil Co.'s No. 1 Gulf fee ..... Drlg. gumbo 4,112 ft.
Harrison Oil Co.'s No. 1 Jones ..... Location.

HIGH ISLAND—GALVESTON COUNTY

Gulf Production Co.'s No. 10 Smith ..... Drlg. shale and lime 4,656 ft.
Marrs McLean's No. 18 Cade ..... Total depth 4,177 ft.; sidetracking rock 2,676 ft.
Marrs McLean's No. 19 Cade ..... Rig.

ORCHARD—FORT BEND COUNTY

Gulf Production Co.'s No. 25 Moore ..... Rig.
Gulf Production Co.'s No. 26 Moore ..... Drlg. 325 ft.

HULL—LIBERTY COUNTY

Republic Production Co.'s No. 138 Dolbear (workover) ..... Comp. pumping 100 bbls. oil 2,648 ft.

PORT NECHES—ORANGE COUNTY

Gulf Production Co.'s No. 1 W. H. Starks ..... Drlg. shale and lime 5,731 ft.
The Texas Company's No. 2 Starks ..... Drlg. sticky shale 4,718 ft.

CLAY CREEK—WASHINGTON COUNTY

Sun Oil Co.'s No. 5 Hunt ..... Rig.
Sun Oil Co.'s No. 4 Janner ..... Shale 2,679 ft.; reaming.

ORANGE—ORANGE COUNTY

Humble Oil & Refining Co.'s No. 6 Winfree (workover) ..... Comp. pumping 14 bbls. net oil 4,019 ft.

SARATOGA—HARDIN COUNTY

The Texas Company's No. 307 fee ..... Rig.

ESPERSON—LIBERTY COUNTY

Cranfill-Reynolds Oil Co.'s No. 5 Davis ..... Oil sand 2,316 ft.; cem. casing.
Cranfill-Reynolds Oil Co.'s No. 16 Esperson ..... Drlg. shale 2,285 ft.
Cranfill-Reynolds Oil Co.'s No. 17 Esperson ..... Standing rigged up.
Cranfill-Reynolds Oil Co.'s No. 4 Moores Bluff ..... Drlg. shale 2,030 ft.
Yount Lee Oil Co.'s No. 3 Moores Bluff ..... Drlg. hard shale 7,569 ft.

HANKAMER—LIBERTY COUNTY

Gulf Production Co.'s No. 1 Ezzell ..... Pulling screen to deepen 3,832 ft.

WEST COLUMBIA—BRAZORIA COUNTY

Anderson et al's No. 1 Smith & Brooks ..... Rigging up to pump.

ORANGE—ORANGE COUNTY

Sun Oil Co.'s No. 7 Gunstream ..... No report.

BOLING—WHARTON COUNTY

C. S. Thomas' No. 1 Volney ..... Shut down 235 ft.
C. S. Thomas' No. 1 Taylor ..... Drlg. shale 1,346 ft.

REFUGIO—REFUGIO COUNTY

Houston Oil Co.'s No. 1 Rooke ..... Coring 3,512 ft.
Houston Oil Co.'s No. 1 City, Blk. 59 ..... Coring shale 6,021 ft.
Houston Oil Co.'s No. 1 O'Connor ..... Drlg. lime and shale 4,278 ft.
Houston Oil Co.'s No. 1 West ..... Oil sand 6,381-97 ft.; set 6⅝-in. casing.
Houston Oil Co.'s No. 1 Rose Lambert ..... Oil sand 5,917-22 ft.; testing.
Houston Oil Co.'s No. 2 Rose Lambert ..... Oil sand 5,890 ft.; set 6⅝-in. casing 5,883 ft.
Houston Oil Co.'s No. 7 Fannie Heard (workover) ..... Total depth 3,718 ft.; plugged to 3,680 ft.
Houston Oil Co.'s No. 1 Johnson, Block 63 ..... Drlg. sticky shale and lime 5,589 ft.
Independent Oil & Gas Co.'s No. 1 Rose Lambert ..... Drlg. gumbo 4,020 ft.
Independent Oil & Gas Co.'s No. 6 Jerry Reilly (workover) ..... Drlg. shale 6,547 ft.
Edwin M. Jones' No. 8-A ..... Derrick.
Luling Oil & Gas Co.'s No. 1 J. W. Kay ..... Drlg. sticky shale 4,208 ft.
Luling Oil & Gas Co.'s No. 1 West ..... Drlg. gumbo and lime 3,018 ft.
Mission Drilling Co.'s No. 1 Moss-Heard, Block 11 ..... Drlg. sandy shale 5,222 ft.
Mission Drilling Co.'s No. 1 O'Brien (workover) ..... Standing 5,471 ft.
Mission Drilling Co.'s No. 1 Joe Shay, Block 6 ..... Oil sand 5,690-95 ft.; cem. 6¼-in. casing.
Moody-Seagraves Prod. Co.'s No. 1 Linney ..... To deepen 5,469 ft.
Moody-Seagraves Prod. Co.'s No. 1-A O'Brien ..... Derrick.
Moody-Seagraves Prod. Co.'s No. 2 O'Brien ..... Derrick.
Moody-Seagraves Prod. Co.'s No. 3 O'Brien ..... Derrick.
Moody-Seagraves Prod. Co.'s No. 1-A St. John ..... Drlg. sticky shale 2,306 ft.
Moody-Seagraves Prod. Co.'s No. 1 Strauch, Block 65 ..... Location.
Morgan Oil Corp.'s No. 2 O'Connor ..... Comp. flowing 800 bbls. 6,454 ft.
Pearson Properties, Inc.'s No. 1 Hornburg ..... Derrick.
Pearson Properties, Inc.'s No. 3 Ryals ..... Drlg. sandy shale 5,126 ft.
Pittsburg Refugio Oil Co.'s No. 2 Terrell ..... Drlg. gumbo 2,921 ft.
Saxet Oil Co.'s No. 12 Clint Heard ..... Sand 6,386 ft.; cem. 5 3/16-in. casing 6,372 ft.
Saxet Oil Co.'s No. 1 Kay ..... Shut down for repairs 5,282 ft.
Saxet Oil Co.'s No. 2 Ryals (workover) ..... Abandoned in salt water 6,376 ft.
Saxet Oil Co.'s No. 3 Ryals ..... Sand and shale showing oil 5,452 ft.
Stroube & Stroube's No. 1 City, Lot 15, Block 4 ..... Oil sand 3,682-90 ft.; cem. 6⅝-in. casing 3,682 ft.
C. A. Tucker's No. 1 Empson ..... Cem. casing to test 3,675 ft.
Union Producing Co.'s No. 10 Fannie Heard ..... Rig.
Union Producing Co.'s No. 6 O'Brien ..... Derrick.
Union Producing Co.'s No. 5 Powers ..... Location.
Union Producing Co.'s No. 5 Mitchell ..... Rig.
Union Producing Co.'s No. 2 Eskridge-Heard ..... Abandoned 3,684 ft.

SOUTH LOUISIANA FIELDS
LOCKPORT—CALCASIEU PARISH

Union Sulphur Co.'s No. 2 Moss ..... Tested salt water 5,055 ft.; pulled screen; standing.
Union Sulphur Co.'s No. 1 Martha Moss ..... Drlg. hard sand 5,552 ft.
Vacuum Oil Co. and Gulf Ref. Co.'s No. 28 Miller ..... Bailed dry 4,421 ft.; pulling screen.
Vacuum Oil Co. and Gulf Ref. Co.'s No. 29 Miller ..... Gumbo 1,302 ft.; cem. 13⅜-in. casing.
Vacuum Oil Co.'s No. 6 Bayou State ..... Drlg. hard sandy lime 2,446 ft.
Yount Lee Oil Co.'s No. 1 Miller ..... Drlg. sandy shale 6,400 ft.

HACKBERRY—CAMERON PARISH

Calcasieu Oil Co.'s No. 20 Watkins ..... Comp. flowing 1,000 bbls. 2,781 ft.
Calcasieu Oil Co.'s No. 6 Caldwell ..... No report.
Duhon Oil & Mineral Co.'s No. 1 Koonce ..... Shut down 140 ft.
Federal Petroleum Co.'s No. 1 Hebert ..... Drlg. shale 6,571 ft.
The Texas Company's No. 7 State ..... Drlg. shale and lime 3,802 ft.
Yount Lee Oil Co.'s No. 31 State ..... No report.
Yount Lee Oil Co.'s No. 2 Portia ..... No report.

JENNINGS—ACADIA PARISH

Eunice Oil Co.'s No. 2 Crowley, west ..... No report.
Kathleen Oil Co.'s No. 2 Syndicate Clements ..... Comp. pumping 150 b' ls. fluid, 15 bbls. net oil, 1,539 ft.
Yount Lee Oil Co.'s No. 9 Housierre Latrielle ..... Sandy shale 6,896 ft.; set 7-in. casing.
Yount Lee Oil Co.'s No. 7 Crowley ..... Drlg. 3,829 ft.

VINTON—CALCASIEU PARISH

Gulf Refining Co.'s No. 4 Gardner ..... Set strainer 3,498 ft.
Marrs McLean's No. 11 Gray ..... Comp. pumping 15 bbls. oil 1,917 ft.
Supreme Oil Co.'s No. 2 Gray ..... Comp. flowing 600 bbls. 3,026 ft.
Vinton Petroleum Co.'s No. 9 Gray ..... Drlg. gumbo and lime 2,574 ft.
Wilson-Broach's No. 4 Wilson ..... Oil sand 3,491 ft.; cem. 6⅝-in. casing 3,477 ft.

BAYOU BOUILLON—ST. MARTIN PARISH

Rycade Oil Corp.'s No. 5 Atchafalaya (workover) ..... Pulling screen to deepen.
Rycade Oil Corp.'s No. 1 Woodyard Lake ..... Fishing 5,414 ft.
Rycade Oil Corp.'s No. 4 State ..... Derrick.

STARKS—CALCASIEU PARISH

Adams Oil Co.'s No. 1 Roderick ..... No report.
J. O. Davis' No. 1 Industrial ..... Drlg. 3,949 ft.
J. G. Sutton et al's No. 1 Industrial ..... Drlg. 1,401 ft.

SWEET LAKE—CAMERON PARISH

Magnolia Petroleum Co.'s No. 1 Sweet Lake ..... Drlg. 6,005 ft.

EDGERLY—CALCASIEU PARISH

Associated Oil Co.'s No. 5 Paraffine ..... Comp. pumping 50 bbls. 3,075 ft.
Rex Petroleum Co.'s No. 12 Hunter ..... No report.
C. M. Crotty's No. 15 Lillard ..... Comp. flowing 500 bbls. fluid, 15 bbls. net oil 2,349 ft.

MISCELLANEOUS WILDCATS

TEXAS

AUSTIN COUNTY

O'Hara et al's No. 1 Schrader ..... Drlg. shale 1,077 ft.

BRAZORIA COUNTY

The Texas Company's No. 1 Ewin, Harvey Little Sur. .. Drlg. sticky shale 6,982 ft.
The Texas Company's No. 1 J. H. Murdock, Fresno ..... Rig.
Mills Bennett Production Co.'s No. 1 Random, Allen..... Total depth 5,363 ft.; standing.
Mills Bennett Production Co.'s No. 1 Reese, Allen..... Drlg. shale 4,046 ft.
Mills Bennett Production Co.'s No. 1 Pooie, Allen..... Drlg. sand rock 2,653 ft.
Mills Bennett Production Co.'s No. 2 Allen ..... Drlg. gumbo and lime 2,777 ft.
Faust et al's No. 5 Faust ..... Drlg. shale and lime 4,960 ft.
Freeport Sulphur Co.'s No. 2,001 Fee, Bryan Heights..... Drlg. shale 3,049 ft.
Layne et al's No. 7 Wisdom, Damond Mound ..... Drlg. hard sand 356 ft.
Rucks & Patterson's No. 1 Hunter, southwest of Hoskins.. Total depth 1,180 ft.; sidetracked to rock 968 ft.; shut down.
Rycade Oil Corp.'s No. 1 Seaburn, Stratton Ridge..... Drlg. shale 2,312 ft.
Rycade Oil Corp. and Vacuum Oil Co.'s No. 1 Wisdom, Lake Jackson ..... Abandoned location.
Shell Petroleum Corp.'s No. 4 Blakely-Dan ury ..... Sticky shale 1,852 ft.; set 18-ft. screen and liner.
Steel & Strickland's No. 1 Lockridge ..... Spudded and shut down.
United Oil Syndicate's No. 1 Moores, Francis Moore Sur... Shut down 1,462 ft.

CALHOUN COUNTY

The Texas Company's No. 1 Thomas, J. P. Tilley Sur..... Drlg. shale 4,952 ft.

CHAMBERS COUNTY

Chicago Oil Corp.'s No. 1 Lawrence ..... Total depth 3,948 ft.; cemented casing.
Shell Petroleum Corp.'s No. 2 Herff, Moss Bluff ..... Rig.
Pure Oil Co.'s No. 1 J. H. K. Ranch, Oyster Bayou ..... Drlg tough gumbo 4,681 ft.
The Texas Company's No. 1 Jackson, T.&N.O. Sur., Sec. 17 ..... Drlg. hard shale and lime 4,633 ft.

GRIMES COUNTY

Deering et al's No. 1 Munker, Darius Gregg Sur. ..... Drlg. gumbo 561 ft.
Navasota ..... Drlg. shale 2,892 ft.

HARDIN COUNTY

D. O. Speights' No. 1 Fee, near Batson ..... No report.

HARRIS COUNTY

Baldwin and associates' No. 1 Kitzman, Cypress ..... Shut down 4,247 ft.
Gulf States Oil Co.'s No. 1 Angsperger ..... Fishing 885 ft.
Humble Oil & Ref. Co.'s No. 8 Warren, Hockley ..... Drlg. shale 2,089 ft.
Humble Oil & Ref. Co.'s No. 3 Minnetex, Mykawa ..... Drlg. sandy shale 4,263 ft.
Mission Drilling Co.'s No. 2 Cook, H. A. Read Sur. ..... Drlg. gumbo 1,512 ft.

JACKSON COUNTY

Jackson County Oil Syndicate's No. 8 Drushell, Edna..... Drlg. hard sand and lime 3,596 ft.
Jackson County Oil Syndicate's No. 2 Lee ..... Drlg. 3,401 ft.

JEFFERSON COUNTY

Deep Test Oil Co.'s No. 1 McFaddin, Chaisson Sur..... No report.
Westbury Oil Co.'s No. 1 West, Choate Sur. ..... Drlg. gumbo 4,112 ft.

LIBERTY COUNTY

Gulf Production Co.'s No. 2 McFaddin, Moss Bluff ..... Drlg. rock 3,861 ft.
Humble Oil & Ref. Co.'s No. 1 Breeding, Moss Bluff .... Derrick.
Humble Oil & Ref. Co.'s No. 1 Orlando Hylton, Moss Bluff ..... Drlg. gumbo 531 ft.
Humble Oil & Ref. Co.'s No. 1 Sergent, Moss Bluff ..... Location.
Rycade Oil Corp.'s No. 1 Heiskell ..... Rig.
Shell Petroleum Corp.'s No. 2 Herff ..... Rig.
Tucker et al's No. 1 Bell, Devers ..... Derrick.

MATAGORDA COUNTY

H. C. Cockburn's No. 2 Hawkins, Shepherds Mott ..... Location.
Empire Gas & Fuel Co.'s No. 1 Boker, Citrus Grove ..... Drlg. hard sand and lime 3,676 ft.

MONTGOMERY COUNTY

Price & Whitehead's No. 2 Guerges ..... No report.

REFUGIO COUNTY

Blanco Oil Co.'s No. 1 Dorman ..... Shut down 3,120 ft.

VICTORIA COUNTY

Houston Oil Co.'s No. 1 McFaddin, C. O. Edwards Sur.... Drlg. gumbo 1,726 ft.
The Texas Company's No. 1 McFaddin, H. Bonny Sur..... Drlg. sand and shale 3,904 ft.
Lion Oil & Ref. Co.'s No. 2 McFaddin, M. Travlers Sur... Drlg. shale 4,439 ft.
Newton et al's No. 1 West ..... Shut down 1,550 ft.

WALKER COUNTY

Texas State Oil Co.'s No. 2 Folls, H.&T.C. Sur., Abstract 287 ..... Drlg. shale 3,206 ft.

WALLER COUNTY

W. P. Morris' No. 1 Chapman, Donoho Sur. ..... Shut down 3,234 ft.

WASHINGTON COUNTY

W. Birdwell's No. 1 Schram, James Walker Sur. ..... Shut down 2,110 ft.
Clifton et al's No. 1 Pruiss, E. Alcorn Sur. ..... Shut down 1,610 ft.

SOUTH LOUISIANA

ACADIA PARISH

Charles P. Siess' No. 1 Roller, Sec. 8-9s-1e ..... No report.

CALCASIEU PARISH

Wilfred Lahay's No. 1 J. J. Jardell ..... Location.
Wilfred Lahay's No. 2 James ..... Standing 3,970 ft.

CAMERON PARISH

Shell Petroleum Corp.'s No. 15 Watkins, Black Bayou.... Drlg. sand and boulders 1,194 ft.
Shell Petroleum Corp.'s No. 1 State, Black Bayou ..... Hard sand and lime 4,354 ft.; reaming.
Vacuum Oil Co.'s No. 1 Cameron Meadows, Sec. 21-14s-13w ..... Drlg. sticky shale 4,557 ft.
The Texas Company's No. 6 State, Calcasieu Lake ..... Rigging up.

IBERIA PARISH

Lake Oil Co.'s No. 1 Ben White, Sec. 54-12s-7e ..... No report.
Jefferson Oil Co.'s No. 9 Lake Peigneur, Jefferson Island. Location.
Jefferson Oil Co.'s No. 10 Lake Peigneur, Jefferson Island ..... Location.
The Texas Company's No. 5 Vermillion Bay ..... Drlg. rock 6,528 ft.

IBERVILLE PARISH

Shell Petroleum Corp.'s No. 5 Wilbert, White Castle..... Drlg. shale and lime 4,543 ft.
Standard Oil Co.'s No. 5 Wilbert, Bayou Blue ..... Comp. swabbing 5 bbls. net oil 1,735 ft.
Standard Oil Co.'s No. 7 Wilbert ..... Derrick.
Standard Oil Co.'s No. 8 Wilbert ..... Drlg. 2,687 ft.
Standard Oil Co.'s No. 1 E. B. and S. P. Schwing, Bayou Blue ..... Drilling.
Standard Oil Co.'s No. 1 Baist Cooperage, Bayou Blue... Rig.
Standard Oil Co.'s No. 2 Case, Bayou Des Glaise ..... Location.

JEFFERSON PARISH

Humble Oil & Ref. Co.'s No. 1 Delaware, Sec. 2-16s-23e.. Drlg. hard sandy shale 3,260 ft.

JEFFERSON DAVIS PARISH

Shell Petroleum Corp.'s No. 1 Heyd, Iowa ..... Location.
Vacuum Oil Co.'s No. 1-A DeVilbiss, Roanoke ..... Drlg. gumbo 1,209 ft.

LAFAYETTE PARISH

Pure Oil Co.'s No. 1 Marmetin, Carencro ..... Drlg. sandy shale 6,531 ft.

PLAQUEMNIE PARISH

Humble Oil & Ref. Co.'s No. 2 Cockrell-Moran, Lake Grand Ecaille ..... Moving in material.
Humble Oil & Ref. Co.'s No. 3 Cockrell, Lake Grand Ecaille ..... Cap rock 1,525-44 ft.; drill stem stuck; sidetracking.
The Texas Company's No. 4 State, Garden Island ..... No report.

ST. LANDRY PARISH

Herbert-Baker Oil Co.'s No. 1 Fisher, Sec. 10-3S-4e..... Abandoned 4,378 ft.

ST. MARTIN PARISH

The Texas Company's No. 1 Iberville Land ..... Rig.
The Texas Company's No. 4 St. Martin, Hager ..... Derrick.

ST. MARY PARISH

The Texas Company's No. 1 South Coast, Sec. 41-14s-10e.. No report.

TERREBONNE PARISH

The Texas Company's No. 5 State, Bay St. Elaine ..... Location.
The Texas Company's No. 4 State, Caillou Island ..... Location.
The Texas Company's No. 5 State, Caillou Island ..... Driving piling.
The Texas Company's No. 3 State, Dog Lake ..... Rigging up.
The Texas Company's No. 4 La. L. & E., Four Isle ..... Drlg. shale 2,839 ft.
The Texas Company's No. 2 La. L. & E., Bay Junop ..... Gumbo 1,206 ft.; set 12½-in. casing.
The Texas Company's No. 5 State, Lake Barre ..... Drlg. hard sand rock and lime 1,804 ft.

SOUTHWEST TEXAS FIELDS

(Continued from Page 55)

7 Trevino, 1,195 feet north of south corner and 150 feet east line, Block 15, Survey No. 65; location. Same operator's No. 3 Gutierrez, 900 feet northeast line, 3,014 feet northwest line, Share 4, Fansler partition, Comitas grant; total depth 1,200 feet, drilling.

DRILLING ACTIVITY

Cole Pool—Duval County

W. E. Mulholland's (Miller Shaw) No. 2 S. Benavides, 218 feet north line, 1,050 feet west line, Survey No. 173; total depth 2,736 feet, tested oil, gas and salt water.

Schoolfield-O'Byrne Pool—Duval County

C. E. Long's (Shell) No. 1 Bishop Duval Land Co., 2,800 feet north line, 160 feet west line, Survey No. 59; total depth 450 feet, shut down. Magnolia Petroleum Co.'s No. 1 Hahl-Norton, 885 feet west line, 600 feet south line, Survey No. 61; total depth 2,308 feet, cleaning out.

Kohler Pool—Duval County

Simms Oil Co.'s No. 9 Dinn, 660 feet east line, 660 feet south line of NW SE, Survey No. 143; standing rigged up.

Randado Pool—Jim Hogg County

Cole Petroleum Co.'s No. 1 Wood, 802 feet west line, 547 feet southwest line, Block 16, Survey No. 82; location.

Roma Pool—Starr County

The Texas Company's No. 5-A V. C. de Guerra, 675 feet north line, 675 feet east line, Share 305, Porcion 67, Jurisdiction of Mier; rigging up.

Schott Field—Webb County

George S. Marshall's No. 2 Garcia, 1,170 feet north line, 2,490 feet east line, Survey No. 458; total depth 1,890 feet, drilling.

Carolina-Texas Pool—Webb County

Magnolia Petroleum Co.'s No. 1 Jones-Wright, 330 feet south line, 330 feet west line, Survey No. 674; total depth 3,485 feet, drilling shale. Washington-Texas Oil & Gas Co.'s No. 1 R. O. Barnsley, 325 feet south line, 768 feet east line, Block 16, Survey 268; total depth 2,300 feet, drilling.

Cole Pool—Webb County

O. W. Killam's No. 19 Bruni, Adams Subdivision, Mariano Arispe grant, Block 1, Survey No. 8; total depth 2,322 feet, waiting on cement. Trussell, Cezeaux & Partee's No. 1 Bruni, 150 feet northeast line, 300 feet southeast line, Block 35, Adams Subdivision, Survey No. 10, Mariano Arispe grant; total depth 2,110 feet, drilling.

Pappas Pool—Zapata County

John Pappas Pool, Inc.'s No. 1 Flores, 2,977 feet southeast line, 6,000 feet Rio Grande River, Porcion 35; rigging up.

Charco Redondo Pool—Zapata County

C. R. Moore and J. W. Moore's No. 1 Adela G. de Flores, 330 feet northwest line, 330 feet northeast line, E. M. Doty Oil and Gas Subdivision, Survey No. 99, Charco Redondo grant; total depth 320 feet, moving in rig. Same operators' No. 2 Adela G. de Flores, 150 feet northeast line, 150 feet southeast line, E. M. Doty Oil and Gas Subdivision, Block 151, Charco Redondo grant; total depth 50 feet, standing. Mid-West Public Utilities' No. 1 Garcia, 450 feet southwest line, 450 feet southeast line of M. P. de Garza tract, Block 33, Pedernal grant; total depth 1,381 feet, standing.

Jennings-Muckleroy Pool—Zapata County

Alamo Drilling & Leasing Co.'s (Claggett) No. 4 Trevino, 490 feet east line, 150 feet south line, Block 1, Survey No. 66; total depth 300 feet, drilling. Same company's No. 5 Trevino, 150 feet south line, 150 feet east line, Block 1, Survey No. 66; location. Same company's No. 6 Trevino, 450 feet southeast line, 150 feet east line, Block 1, Survey No. 66; location. Allied Gas Co.'s No. 3-B Trevino, 150 feet northwest line, 150 feet east line, Block 15, Survey 65; total depth 1,000 feet, drilling. Same company's No. 4-B Trevino, 150 feet east line, 350 feet northwest line, Block 15, Survey No. 65; total depth 875 feet, drilling. Same company's No. 5-B Trevino, 260 feet east line, 485 feet northwest line, Block 15, Survey No. 65; location. Same company's No. 8-B Trevino, 520 feet northwest line, 465 feet east line, Block 20, Survey No. 65; location. Allied Gas Co.-Allen & Morris' No. 6 Gutierrez, 4,263 feet southeast line, 1,650 feet northeast line, Share 4, Fansler partition, Comitas grant; location. Same operators' No. 7 Gutierrez, 4,263 feet southeast line, 150 feet northeast line, Share 4, Fansler partition, Comitas grant; location. Same operators' No. 8 Gutierrez, 3,963 feet southeast line, 150 feet northeast line, Share 4, Fansler Partition, Comitas grant; location. Same operators' No. 9 Gutierrez, 3,663 feet southeast line, 150 feet northeast line, Share 4, Fansler partition, Comitas grant; location. Edgington & Niles' No. 5-B Trevino, 150 feet southeast line, 1,050 feet southwest line, Block 4, Survey No. 65; location. Gatlen & Matthews' No. 1 Garza, Block 18, Survey 413; derrick. Keene & Jackson's No. 1 M. Garza, 150 feet northwest line, 150 feet southwest line, Block 59, Subdivision Zorro Ranch, Comitas grant; total depth 200 feet, drilling. Mirando Lumber Co.'s No. 1 M. Garza, 150 feet northwest line, 150 feet southwest line, Block 62, Subdivision Zorro Ranch, Comitas grant; derrick. Nordan & Morris and Grimm & Yakey's No. 1 S. Bustamente, 990 feet northeast line, 150 feet northwest line, Share 34, Fansler partition, Comitas grant; location. Same operators' No. 2 E. de los Santos, 750 feet southeast line, 382 feet southwest line, Share 7, Fansler partition, Comitas grant; total depth 875 feet, drilling. Smith-Clark Co., Inc.'s (Skoglung & Maddox) No. 1 Montemayor, 150 feet west line, 450 feet north line, Block 5, Survey No. 63; total depth 1,304 feet, drilling. S.R.C. Oil Co.'s No. 8-A Trevino, 450 feet west line, 150 feet south line, Block 8, Survey No. 66; total depth 1,262 feet, waiting on casing. Same company's No. 1 F. Cuellar, 150 feet northwest line, 150 feet northeast line, Block 7, Survey No. 65; derrick. Same company's No. 12-B Trevino, location. Same company's No. 14-B Cuellar, 750 feet west line, 150 feet south line, Block 13, Survey No. 65; total depth 1,475 feet, drilling. Whicker, Arnold & Ahler's No. 3 Garza, 150 feet southwest line, 450 feet southeast line, Block 1, Subdivision Zorro Ranch, Comitas grant; rigging up. Winch & Henne's No. 2 J. Bustamente, 263 feet southwest line, 150 feet northwest line, Share 35, Fansler partition, Comitas grant; total depth 1,250 feet, coring.

Jennings-Cuellar Pool—Zapata County

O. W. Killam's No. 1 R. Lopez, 600 feet east line, 475 feet south line, Block 6, Survey No. 71; total depth 2,295 feet, drilling sand. Same operator's No. 1

Slator, Block 1, Slator pasture, Borrego grant; location. Same operator's No. 26-B Cuellar, 1,885 feet south line, 1,025 feet southwest line, Survey No. 277; total depth 1,200 feet, drilling. Same operator's No. 27-C Cuellar, 575 feet north line, 880 feet southwest line, Survey No. 278; total depth 1,576 feet, waiting on casing.

COMPLETIONS

Pettus Area—Bee County

C.R.M. Drilling Co.'s No. 1 Block 34 Townsite, center Block 34, Pettus townsite, total depth 3,909 feet, 750 bbls. Houston Oil Co.'s No. 1 Block 35 Townsite, center Block 35, Pettus townsite, total depth 3,894 feet, 400 bbls.

Dobrowolski Pool—Bexar County

Penn-Tex Oil Co.'s No. 3 Sandemer, 300 feet west of No. 2, M. Manchaco Survey, total depth 670 feet, pumping 10 bbls. Swearingen Oil Co.'s No. 5 fee, 300 feet south of No. 4, Survey No. 52, estimated 5 bbls. pumping. Same company's No. 6 A. J. Swearingen, 150 feet west line, 1,100 feet south line of 100-acre tract, Survey No. 52, small gas well. Same company's No. 1 J. Halberdin, 1,997 feet west line, 150 feet southwest line, 109-acre tract, Survey No. 52, total depth 718 feet, pumping 10 bbls.

Darst Creek—Guadalupe County

Abercrombie Oil Co.'s No. 9 Dis-McKean, 450 feet southwest line, 150 feet northwest line of 20-acre tract, J. R. Robinson Survey, total depth 2,533 feet, pumping 500 bbls.

Chapman Pool—Williamson County

E. C. Mead's No. 1 Abbott, 100 feet north and west lines of 6-acre tract, S. Miller Survey, total depth 2,009 feet, 1,000 bbls. E. L. Chapman's No. 6-B J. C. Abbott, 200 bbls. E. R. Marts' No. 4 T. P. Simmons, 150 feet west of center of east line of 17-acre tract, S. Miller Survey, total depth 1,962 feet, 1,000 bbls. McNeil's No. 6 Kilgore, total depth 1,550 feet, 600 bbls. McIntyre and others' No. 1 B. Lawrence, total depth 2,200 feet, 400 bbls.

ABANDONED TESTS

Pettus Area—Bee County

Arkansas Fuel Co.'s No. 1 J. Kimball, 200 feet south line, 200 feet west line of 80-acre tract, Stephen Winship Survey, dry and abandoned.

NEW LOCATIONS

Pettus Area—Bee County

Batex Petroleum Co.'s No. 3 Burnett, one location west of No. 2, location. Houston Oil Co.'s No. 1 Block 21 Townsite, center of Block 21, Pettus townsite, location. Moody-Seagraves Producing Co.'s No. 2 McKinney, 1,200 feet due west of No. 1, C. Ballard Survey, location.

Dobrowolski Pool—Bexar County

Morgan Brothers' No. 3 Masterson, Miguel Gortaris Survey, total depth 550 feet, set casing. Penn-Tex Oil Co.'s No. 4 Sandemer, 300 feet south of No. 3, location.

Darst Creek—Guadalupe County

Gulf Production Co.'s No. 3 Thomas Dix, 450 feet south of east corner, 150 feet northeast line of lease, J. R. Robinson Survey, building derrick. Same company's No. 4 Thomas Dix, 750 feet to east corner, 150 feet to northeast line of lease, J. R. Robinson Survey, building derrick. Same company's No. 6 Posey Baker, 150 feet each way out of the west corner of lease, J. R. Robinson Survey, location. Same company's No. 7 Posey, 800 feet northeast of the west corner. 150 feet northwest line of lease, J. R. Robinson Survey, location.

Agua Dulce Field—Nueces County

South Texas Production Co.'s No. 2 Ollie Purl, 1,200 feet northeast of No. 1, rigging up.

Saxet Field—Nueces County

Houston Oil Co.'s No. 1 Ran Morgan, 105 feet north of the center of the tract and 350 feet east, total depth 480 feet, set surface casing.

Chapman Pool—Williamson County

Sequoia Oil Co.'s No. 7 T. P. Simmons, 150 feet north line, 325 feet east line of 17-acre tract, S. Miller Survey, location.

DRILLING ACTIVITY

Dobrowolski Pool—Bexar County

Bolling & Michael's No. 1 J. P. Adams, 150 feet south line, 300 feet west line lease, Miguel Gortaris Survey, total depth 662 feet, will deepen. Eckert & Son's No. 8 Sandemer, 625 feet south line, 1,155 feet west line, Survey No. 52, total depth 318 feet, drilling. W. R. Swearingen and others' No. 2 Halverdier, 300 feet southeast of No. 1, Survey No. 57, total depth 460 feet, drilling in rock.

Bruner Field—Caldwell County

Humble Oil & Refining Co.'s No. 6 W. H. New, 450 feet south line, 1,650 feet west line, J. Hinds Survey, location.

Darst Creek Field—Guadalupe County

Gulf Production Co.'s No. 3 Maleer, north end Darst Creek Field, 440 feet northeast line, 200 feet northwest line of 72-acre tract, J. B. Alexander Survey, total depth 2,173 feet, drilling in chalk. Humble Oil & Refining Co.'s No. 2-A Dowdy, SW part of Darst Creek offset to Empire Gas & Fuel Co.'s No. 5 Dowdy, northeast corner of "A" lease, location. Magnolia Petroleum Co.'s No. 4 Richburg, west offset to Gulf's No. 4 Malear, total depth 1,740 feet, drilling. Simms Oil Co.'s No. 4 Manford, location. The Texas Company's No. 5-A Knoblock, location. Same company's No. 8-B Knoblock, 1,080 feet northeast line, 150 feet southeast line of 75-acre tract, J. R. Robinson Survey, location. Witherspoon Oil Co.'s No. 1 Baker, 300 feet north of Jarmon's No. 1 Baker on strip between Humble's and The Texas Company's leases. Further activity restrained by temporary injunction until title to land determined.

Chapman Pool—Williamson County

W. D. Anderson's No. 7 M. V. Lawrence, total depth 2,242 feet, set casing. W. D. Anderson's No. 8 M. V. Lawrence, location. W. D. Anderson's No. 1 Mary Meiske, spudded and shut down. W. D. Anderson's No. 6-A T. P. Simmons, location. Bartlett & Wilson's No. 1 R. E. Stewart, total depth 741 feet, drilling. Bartlett & Wilson's No. 2 R. E. Stewart, total depth 790 feet, drilling. E. L. Chapman's No. 7 F. Fuchs, total depth 1,400 feet, drilling in shale. E. L. Chapman's No. 2 T. P. Simmons, 150 feet from south and west lines of 17-acre tract, S. Miller Survey, location. E. L. Chapman's No. 3 T. P. Simmons, 300 feet northeast of No. 2, S. Miller Survey, location. E. L. Chapman's No. 4 T. P. Simmons, 300 feet southeast of No. 3, S. Miller Survey, location. E. L. Chapman's No. 5 T. P. Simmons, 300 feet northeast of No. 4, S. Miller Survey, location. J. L. Collins & Co.'s No. 5 M. V. Lawrence, 150 feet west line, 515 feet south line of 27-acre tract, S. Miller Survey, total depth 1,462 feet, drilling. J. L. Collins & Co.'s No. 7 M. V. Lawrence, 150 feet east line, 215 feet south line of 27-acre tract, S. Miller Survey, location. E. R. Ertel's No. 1 H. Swanson, total depth 653 feet, drilling. Elliott & Moore's No. 1 A. J. Carlson, total depth 40 feet, shut down. A. M. Keisker's No. 1 E. L. Chapman, derrick. A. J. Luke's No. 1 S. Simmons, 500 feet north line, 450 feet west line of 25-acre tract, H. Owne Survey, total depth 2,210 feet, drilling. Manning & Anderson's No. 1 Cooper, total depth 1,228 feet, drilling. Rheubotham's No. 1 S. H. Jarrell, total depth 40 feet, shut down. Rosenfield's No. 1 Pfluger, total depth 1,329 feet, drilling. M. M. Rowan's No. 1 A. Jackson, total depth 1,900 feet, shut down. Sequoia Oil Co.'s No. 4 T. P. Simmons, 300 feet west of No. 2, S. Miller Survey, location. Same company's No. 5 T. P. Simmons, 300 feet southeast of No. 3, S. Miller Survey, location. Same company's No. 6 T. P. Simmons, 300 feet west of No. 4, S. Miller Survey, location. G. Stratton's No. 5 J. C. Abbott, 450 feet east line, 150 feet south line of 32-acre tract, S. Miller Survey, drilling. Texas Oil & Gas Development Co.'s No. 1 Gerner & Allison, 18,000 feet north line, 7,000 feet west of Pedro Zarsa Survey, total depth 40 feet, shut down. Jess Tomberlin's No. 1 C. M. Partman, total depth 1,410 feet, shut down. Wilson and others' No. 1 A. B. Simmons, total depth 2,306 feet, shut down. Wilson and others' No. 1 C. Sitman, total depth 2,950 feet, shut down. R. S. Wilson's No. 1 J. A. Walker, total depth 140 feet.

Pettus Area—Bee County

Batex Petroleum Co.'s No. 2 Burnett, 361 feet north line, 800 feet east line of lease, John Pace Survey, total depth 3,660 feet, waiting on casing. Cosden Oil Co.'s No. 4 McKinney, 497 feet north of No. 2 on the same lease and 300 feet east line of lease, total depth 3,681 feet, waiting on casing. Grayburg Oil Co.'s No. 1-A Kimball, center of 189-acre tract, Stephen Winship Survey, total depth 3,525 feet, whipstocking. Same company's No. 2-A Kimball, 1,000 feet north line, 200 feet west line of 189-acre tract, Stephen Winship Survey, total depth 2,930 feet, drilling. Glasscock Brothers' No. 1 Block 24 Townsite, center of Block 24, Pettus townsite, total depth 3,909 feet, swabbing after having mechanical trouble. Doctor Hewitt and others' No. 1 Mrs. Mauldin, 2,400 feet to north line, 1,200 feet east line of 200-acre tract, J. Poitevant Survey, total depth 3,505 feet, drilling. Hicks & Young's No. 1 Billingsley, 155 feet south and west line of tract, B. Q. Hadley Survey, total depth 360 feet, shut down. Houston Oil Co.'s No. 2 Neumann, east offset to Cosden's No. 2 McKinney, George A. Kerr Survey, total depth 3,699 feet, set casing to top of pay. Same company's No. 1 Block 23 Townsite, center of Block 23, Pettus townsite, total depth 3,899 feet, running tubing. Humble Oil & Refining Co.'s No. 6 McKinney, 150 feet direct offset to Houston Oil Co.'s No. 1 Block 35 Pettus Townsite, George A. Kerr Survey, total depth 1,900 feet, drilling. Lange & Mimms' No. 1 Billingsley, 155 feet south and west lines of Billingsley 10 acres, J. Poitevant Survey, total depth 560 feet, shut down. Rio Bravo Oil Co.'s No. 1 S.A.&A.P., 58 feet north of south line, 120 feet west of west line of Block 3, Pettus townsite, George Kerr Survey, spudded in. Same company's No. 3 S.A.&A.P., G. A. Kerr Survey, location. Southerland and others' No. 1 Billingsley, 155 feet south line, 155 feet west line of 40 acres off north end of 150 acres, B. Q. Hadley Survey, derrick. Lange & Mimms' No. 1 Mauldin, 155 feet to north and east lines of 10-acre tract out of the Mauldin west 125 acres, J. Poitevant Survey, total depth 560 feet, shut down for fuel.

Sun Oil Co.'s No. 1 Burnett, 371 feet north line, 300 feet east line of lease, South John Pace Survey, total depth 2,925 feet, drilling. The Texas Company's No. 2 J. R. Scott, 200 feet north line, 150 feet west line, J. M. Urango Survey, total depth 620 feet, drilling. Same company's No. 3 J. R. Scott, 7,100 feet southwest of No. 1, J. M. Urango Survey, location. Union Producing Co.'s No. 17 Ray, 1,200 feet north of No. 11, total depth 3,823 feet, coring. Same company's No. 18 Ray, east offset to Buchanan & Ogden's No. 1, Block 38, George A. Kerr Survey, rigged up. Same company's No. 19 Ray, east offset to Block 37 of Pettus townsite, total depth 3,907 feet, drilling plug. Same company's No. 20 Ray, east offset to Humble's No. 5 McKinney, 150 feet south, 150 feet east of southeast corner of Pettus townsite, total depth 3,350 feet, drilling. Same company's No. 21 Ray, east offset to Block 40 of Pettus townsite, 900 feet south and 150 feet east of northeast corner of townsite, derrick. Same company's No. 23 Ray, east offset to Block 39, 1,260 feet south, 150 feet east of northeast corner of townsite, location. Same company's No. 24 Ray, 812 feet south line, 1,625 feet west line of P. Miller Survey, total depth 2,870 feet, running tubing. Same company's No. 25 Ray, 1,700 feet south and 1,400 feet east of survey lines, P. Miller Survey, location. Same company's No. 26 Ray, 2,500 feet south line, 2,000 feet east line of P. Miller Survey, location. Wilson & Hill's No. 1 Block 14 Townsite, center of Block 14, Pettus townsite, waiting on permit. Wilson & Hill's No. 1 Roberts, center of Block 16, Pettus townsite, preparing to spud in. Nichols Oil Corp.'s No. 4 Hick, 550 feet east of west line, 430 feet south of north line of Block 20, Jose Maria Urangua Survey, total depth 4,500 feet, shut down.

Lassater Pool—Brooks County

Houston Oil Co.'s No. 1 Holbien-Wormser, 1,550 feet south and 2,650 feet east of intersection of Lisandro Saenz and Manuel Saenz tracts, El Palo Blanco de Maguellas Grant, location. Houston Oil Co.'s No. 2 Holbein-Wormser, 2,100 feet west line, 200 feet south line, Holbein-Wormser 962-acre tract, E. P. de Maguellas Survey, total depth 3,616 feet, stem test showed oil.

Pettus Area—Goliad County

Union Producing Co.'s No. 27 Ray, 1,500 feet southeast line, 4,550 feet southwest line of J. Gomez Survey, location. Same company's No. 28 Ray, 150 feet south line, 800 feet west line of E. Ray tract of 416 acres, location. Same company's No. 29 Ray, 450 feet north line, 215 feet west line of A.B.&M. Survey, location.

Cartwright Field—Live Oak County

Houston Oil Co.'s No. 1 R. Boothe, 3,000 feet west line, 300 feet south line, 822-acre tract, M. B. Kilvin Survey, total depth 5,259 feet, sidetracking bit. Houston Oil Co.'s No. 22 Cartwright, 500 feet east of No. 18, total depth 4,951 feet, coring.

Saxet Field—Nueces County

Saxet Oil Co.'s No. 2 Donnegan, 2,150 feet due south of No. 1 Donnegan, 330 feet east line of lease, derrick completed. R. A. Thompson's No. 2 Lawrence-Harrell, 300 feet from north and east lines of Block 19, 1,500 feet northeast of No. 1 Lawrence, total depth 1,659 feet, casing set, gas well.

Lion-McFadden Pool—Victoria County

Houston Oil Co.'s No. 1 McFadden, 330 feet south and 900 feet east of southeast corner of L. Mann Survey, total depth 1,190 feet, set casing. Lion Oil Refining Co.'s No. 2 McFadden, 1,917 feet west of northeast corner and 512 feet at right angles from the north line of C. O. Edwards Survey, in M. J. Travesia Survey, total depth 4,565 feet, drilling shale. The Texas company's No. 1 A. M. McFadden, 1,550 feet north line, 1,550 feet east line of H. Benny Survey, total depth 3,900 feet, drilling.

OKLAHOMA FIELDS

(Continued from Page 50)

Co., Skelly Oil Co., Prairie Oil & Gas Co., Carter Oil Co., Pure Oil Co., Twin State Oil Co., Reiter-Foster Oil Corp., Margay Oil Co., and Sinclair Oil & Gas Co.

Another county that is attractive to oil operators in the western part of the State is Blaine County, located south of Major and west of Kingfisher Counties. Checkerboarding is underway in all parts of the county. In the northwestern part of Blaine County the lease play has extended across the county lines to the north and west. Major oil operators are getting most of these leases. Oil operators have assembled several blocks of acreage and geological parties have been at work and it is believed some major structures have been worked out. Despite the overproduction of crude oil in the State Blaine County has had an active leasing campaign in the wildcat areas.

In the Perry district, Noble County, three news tests were being drilled for gas, Empire Oil & Refining Co.'s No. 1 Freyer, NW cor. NE, Section 4-21-1w; Twin State Oil Co.'s No. 1 Trussell, NE cor SE, Section 4-21-1w, and Prairie Oil & Gas Co.'s No. 1 Smyser, NE cor. SE, Section 5-20-1w. Magnolia Petroleum Co.'s No. 2 Young, NE cor. NW NW, Section 22-21-2w, the discovery well in the area, is flowing 700 bbls. a day, with the production curtailed, from the Misener sand at 5,100-05 feet. The other producer in the area, the same company's No. 4 Sams, SE cor. SW SW, Section 15-21-2w, is making 250 bbls. a day on the pump, after being plugged back from 5,195 feet to 5,185 feet, in the Misener sand.

Continental Oil Co.'s No. 1 Fruits, NE cor., Section 3-25-2w, west of the Tonkawa Field, in southwestern Kay County, is the second well to reach the gas sand in that area. It cemented the 8-inch casing on top of the chat at 4,370 feet, and was rigging up standard tools. It found the top of the chat about 25 feet higher than the Alco Royalty Co.'s No. 1 Wolff, 1¼ miles west, which had 4,000,000 feet of gas in the chat and is shut in. Continental Oil Co.'s test is expected to be drilled to the Wilcox sand horizon, should a flow of gas be found in the chat it will be cased off.

Blankinship Petroleum Co. and others'

No. 1 Randol, SW cor. NW SW, Section 17-27-2, Kay County, a wildcat, which opened a new Bartlesville sand area in the central part of the county, has increased its production since being put on the pump to 75 bbls. a day from 35 bbls. a day, with 5,000,000 feet of gas from the Bartlesville sand at 3,586-98 feet. Another wildcat location was made by Mummert Drilling Co. for No. 1 Spore, NE cor. SW, Section 9-27-2, a mile northeast of the Blankinship Petroleum Co.'s discovery well.

In the southern part of the State a new producer was found near Duncan, in Stephens County and the wildcats in the same county were holding the interest of operators in the vicinity. L. Sikes' No. 2 Broadbent, SE cor. NW, Section 16-1s-8w, in a new producing area, pumped 110 bbls. the first 15 hours. Production was coming from the sand at 2,048-52 feet. G. Pace and others' No. 1 Toney, SW cor. NW NW, Section 27-2s-7w, a wildcat, has cemented casing at 1,312 feet to test a showing of oil at 1,312-19 feet. Crane & Rankin's No. 1 Adkins, NE cor. SE, Section 14-1-9w, a wildcat in Stephens County, was drilling at 1,100 feet. Meridian Gas Co.'s No. 1 Burns, SW cor. NE, Section 35-2-9w, has been abandoned at a total depth of 2,515 feet.

Two new producers were completed in the Tatums district in Carter County, one by the Wirt Franklin Petroleum Co. and the other by Magnolia Petroleum Co. Franklin's No. 2 Mitchell, NE cor. NW SE, Section 24-1s-3w, a diagonal offset to the discovery well in the area, flowed 795 bbls. in 18 hours from a series of sands at 2,310-2,453 feet. Magnolia's No. 2 Hooks, SE cor. SW NE, Section 24-1s-3w, north offset to Franklin's new producer, flowed 902 bbls. in 13 hours, from a series of sands at 1,960-2,352 feet. Wirt Franklin Petroleum Corp. is rigging up to swab on two of its recent completions, No. 1 Mitchell, NW cor. SE, Section 24-1s-3w, and No. 3 Mitchell, SW cor. NE SE, Section 24-1s-3w.

Oklahoma City's Shut-In Production

The initial production of the shut-in wells in the Oklahoma City Pool that have been allowed to produce for 24 hours or less as of August 30 and are now shut in for the proration period, was 809,256 bbls. The initial production and the approximate dates each well will be opened for its regular producing period follows:

I.T.I.O.:			
Sudik	*1	[1]30,000	.....
School Land	*3	[2]27,734	9- 2-30
S. Peterson	*2	[3]6,327	9- 2-30
A. Brokaw	*3	2,855	9- 1-30
C. Trosper	*2	[4]2,385	9- 1-30
Johnson	*5	2,406	8-31-30
Farley	*1	6,408	8-30-30
Mary Sudik	*7	[5]5,169	9- 3-30
Rensimer	*1	[6]1,930	9-14-30
M. Sudik	*8	[7]8,916	9-14-30
H. G. Trosper	*1	[8]7,595	9-14-30
S. Peterson	*2	[9]7,591	9-12-30
E. Trosper	*2	[10]185	9-12-30
Theimer	*5	[11]562	9-12-30
Spillman	*1	10,227	9-26-30
Holmes Gray	*1	[12]4,173	9-26-30
N. Emerson	6	[13]113	9-25-30
Carrico	*1	[14]7,517	9-27-30
N. Emerson	11	[15]699	9-27-30
Jones	*13	36,186	9-28-30
W. J. Phillip	*1	[16]7,586	9-29-30
Jones	*14	[17]562	9-31-30
Corff	*1	4917	10- 3-30
Habegger	*1	[18]3,296	10- 4-30
Peterson	*5	[19]3,755	10- 5-30
Phillips	*1	[20]7,586	10- 5-30
Carrio	*1	9,744	10- 4-30
Coppenger	*1	10,010	10- 5-30
Watters	*5	[21]1,544	10- 5-30
M.-K.-T.	*1	[22]3,264	10- 6-30
H. G. Trosper	*3	7,002	10- 6-30
Boulevard	*1	3891	10-13-30
Huffman	*1	3,015	10-12-30
Watters	*6	3,362	10-10-30
Lemon	*2	4,502	10- 9-30
Watters	*4	2,703	10- 9-30
H. G. Trosper	*3	14,720	10- 9-30
R. Kemmer	*1	[23]1,340	10-20-30
Ferndale Commun.	*4	[24]5,966	10-20-30
Pasadena Heights	*2	[25]2,626	10-19-30
State Land	*5	[26]3,524	10-18-30
S. Peterson	*6	[27]10,356	10-17-30
C. Trosper	*4	[28]482	10-30-30
Mid Texas	*1	[29]4,864	10-30-30
Coppenger	*5	[30]23,465	10-20-30
Starkey	*1	4716	10-30-30
M. Unsell	*3	[31]1,399	10-30-30
Capshaw	*1	[32]740	10-23-30
Habegger	*2	[33]3,036	10-23-30
H. W. Jones	*3	[34]15,885	10-23-30
B. Johnson	*7	[35]1,400	11- 6-30
C. Trosper	*3	[36]4,000	11- 6-30
S. Peterson	*7	[37]6,612	11- 5-30
Carrico	*2	[38]13,497	11- 4-30
Eacock	*1	[39]1,351	11- 4-30
Handel	*1	[40]1,824	11- 4-30
S. Peterson	*8	[41]4,396	11- 4-30
E. Williams	*1	[42]4,132	11- 3-30
Brown	*1	[43]3,705	11- 3-30
Johnson	*8	[44]581	11- 2-30
W. Franklin:			
Theimer	*8	[45]20,000	9-29-30
Holder	*1	[46]3,000	10- 6-30
Page	*1	7,209	10- 2-30
Page	*2	262	10-29-30
Theimer	*7	[47]5,077	10-16-30
Theimer	*11	[48]6,528	10-30-30
Lowery	*9	[49]3,756	10-26-30
Wright	*3	[50]6,796	11- 3-30
Cromwell:			
Trosper Park	*6	11,921	8-30-30
Trosper Park	*20	[51]8,726	9-22-30
Trosper Park	*23	14,623	9-22-30
Trosper Park	*24	[52]3,008	9-23-30
Trosper Park	*25	[53]960	10-20-30
Trosper Park	*27	[54]187	10-19-30
Sinclair:			
Donnell	*1	3,060	9-13-30
School Land 54	7	[55]8,000	8-30-30
School Land 54	*13	7,150	8-20-30
School Land 54	*10	17,220	8-30-30
School Land 67	*3	15,940	8-29-30
School Land 54	*16	[56]8,145	9- 1-30
School Land 54	*6	[57]12,000	9-14-30
School Land 69	*1	[58]12,570	9- 2-30
School Land 54	*16	15,545	9- 4-30
School Land	*5	[59]8,808	10-24-30
Vincl	*14	[60]2,225	9-13-30
Vincl	*16	37,905	9-13-30
Vincl	*9	57,075	9- 2-30
Vincl	*6	[61]10,500	10- 1-30
Vincl	*15	[62]175	10-19-30
Vincl	*10	[63]340	10-18-30
Coline:			
Clauer	*9	11,948	9-24-30
Clauer	*13	[64]545	10-10-30
Clauer	*12	1,401	10-18-30
Clauer	*7	[65]968	10-17-30
Olds	*7	[66]1,763	8-28-30
Warren	7	8,826	9-25-30
Slick:			
G. Milner	*1	[67]9,924	9-14-30
Storie	*1	8,636	9- 3-30
Crawford	*1	13,883	9-28-30
Baker	*4	19,328	9-21-30
Baker	*1	[68]1,428	10- 5-30
Baker	*2	[69]10,250	10-11-30
Milner	2	12,886	10- 2-30
Page	*1	[70]3,433	10-13-30
Page	*2	[71]1,090	10-20-30
Frost Heights	*1	[72]3,937	10-18-30
Frost Heights	*2		
Alexander	*1	[73]330	10-19-30
Campbell	*1	[74]13,875	10-30-30
Foote	*2		
Atkinson	*1	[75]11,340	10-26-30
Trumbley	*1	[76]2,611	10-26-30
Frost Heights	*4	[77]4,368	11- 4-30
Baker	*3	[78]3,155	11- 3-30
Atkinson	*2	[79]10,338	11- 2-30
Mid-Texas:			
Hiddleston	*1	2,320	10- 2-30
Hall & Briscoe:			
Lindsay	2	[80]944	9- 1-30
Holmes	*3	[81]7,201	10-20-30
Holmes	*2	[82]4,032	10-20-30
Wrightsmith Oil Co.:			
Smith	*1	[83]5,312	9- 2-30
Phillips Pet. Co.:			
Traders Comprio	*1	4,055	9-25-30
Prairie:			
Sigmon	*4	7,520	10- 8-30
Sigmon	*5	[84]4,240	10-30-30
Sigmon	*7	[85]2,565	10-24-30
Shell:			
Egermeyer	*1	[86]2,043	10-10-30
Plains & Denver:			
Boulevard	*1	4,968	10-13-30
Century Pet. Co.:			
Wyatt	1	[87]3,000	10-14-30
Independent:			
Hatcher	*1	5,339	10-18-30
Ainsworth	*3	[88]1,115	11- 4-30
Ainsworth	*2	[89]1,665	11- 3-30
Harrell	*1	[90]1,150	11- 2-30
Julian:			
Community	*1	4,364	10-18-30
Hauser	*1	[91]3,600	10-20-30
Skelly Oil Co.:			
Dillon	*2	[92]4,640	10-23-30
Amsworth	*4	[93]3,645	10-30-30
Tanner	*1	[94]2,790	11- 3-30
Mabee & Blackstone:			
Harvey	*1	[95]675	10-25-30
Marco Oil Co.:			
Holder	*1	[96]2,600	11- 2-30
Anderson & Prichard:			
Pest House	*1	[97]10,165	11- 3-30
Roosevelt	*1	[98]10,000	11- 6-30
Total	140	809,256	

*Wells producing from the Simpson sand. All others are producing from the Arbuckle lime.

[1]Estimated. [2]Thirteen hours. [3]Fourteen hours. [4]Twelve hours. [5]Five hours. [6]Eighteen hours. [7]Sixteen, one-half hours. [8]Seventeen hours. [9]Nineteen hours, 45 minutes. [10]Sixteen hours. [11]One hour, 15 minutes. [12]Twelve minutes. [13]Eleven and one-half hours. [14]Fifteen hours. [15]Twenty-one and one-half hours. [16]Twenty hours. [17]Eighteen one-half hours. [18]Six hours. [19]Fifteen hours, 40 minutes. [20]Ten and one-quarter hours. [21]Four hours. [22]Eight hours. [23]Eleven hours, 10 minutes. [24]Seventeen hours, 30 minutes. [25]Fourteen and one-half hours. [26]Ten hours, 15 minutes. [27]Twenty-one hours. [28]Thirty minutes. [29]Two hours. [30]Nine hours. [31]Three hours. [32]Twenty-two hours.

These notations indicate the number of hours and wells produced on their initial production test.

Greater Seminole Production

Production from the Greater Seminole area for the week ending August 25, is being maintained at about the same levels as the previous week, there being an increase of about 3,000 bbls. The Seminole area averaged 142,344 bbls. from 1,896 wells. The daily average gauges from the different pools in the Greater Seminole area were as follows:

Pool—	Wells	Bbls.
Little River	375	22,724
East Little River	84	13,159
Carr City	60	7,593
Maud	139	4,138
Mission	98	6,649
Bowlegs	280	14,423
Earlsboro	294	21,900
East Earlsboro	154	17,929
South Earlsboro	28	9,189
Seminole	266	14,798
East Seminole	33	2,341
Searight	85	7,501
Allen	273	15,100
Asher	26	1,217
Wanette	22	6,625
Konawa	98	16,337
St. Louis	486	23,514
Sasakwa	53	4,972
Total	2,854	210,109

Seminole Oil Shipments

The pipe line shipments from the Greater Seminole area shows a small increase for the week ending August 25, over the previous seven days. The total shipments from the area were 190,539 bbls. The daily average shipments from the different pools were as follows:

Company—	Seminole	Asher. Pearson. St. Louis	Konawa
Barnsdall	2,674	....	....
Champlin	4,778	....	467
Consolidated	....	1,969	....
Cosden	2,596	....	4,137
Continental	271	....	....
Deep Rock	3,425	611	....
Empire	4,231	....	....
Gulf	14,866	5,085	739
Independent	....	2,002	....
Magnolia	7,456	5,905	....
Oklahoma	22,001	5,690	460
Prairie	12,213	4,108	4,114
Prod. & Refiners.	976	....	....
Pure	3,209	....	....
Shell	4,704	432	945
Sinclair	28,181	9,442	3,617
Texas	6,563	1,849	2,571
Tidal	9,626	3,396	....
White Oak	1,221	....	....
Total	128,994	40,490	17,050
Tank cars	4,105		
Grand total	133,099		

Carter County

Magnolia Petroleum Co.'s No. 8 Lewis, NE cor. NE, Section 23-1s-3w, is a rig. No. 3 Hooks, NW cor. SW NE, Section 24-1s-3w, is a rig on ground. No. 4 Spigner, NE cor. SE NW, Section 24-1s-3w, is a rig. Wirt Franklin Petroleum Corp.'s No. 3 Hooks, SE cor. NW NE, Section 24-1s-3w, is a rig. Anderson and others' No. 3 Eaves, SE cor. NE SW, Section 24-1s-3w, has been completed for 100 bbls. in sand 2,453-58 feet. Magnolia Petroleum Co.'s No. 1 Hooks, SW cor. NE, Section 24-1s-3w, has been completed for 100 bbls. in sand 2,187-2,290 feet, total depth 2,450 feet. Wirt Franklin Petroleum Corp.'s No. 2 Mitchell, NE cor. NW SE, Section 24-1s-3w, has been completed for 80 bbls. in sand 2,318-2,453 feet. No. 3 Mitchell, SW cor. NE SE, Section 24-1s-3w, has been completed for 75 bbls. in sand 2,315-2,461 feet. Lively & Hall's No. 1 Coffee, SW cor. NW NE, Section 25-4s-3w, made 5 bbls. in sand 1,988-90 feet.

Creek County

Jackson & Wise and others' No. 1 Jackson, NW cor. NE SW, Section 14-19-9, is a location. Lima Oil & Gas Co. have staked location for No. 5 Benjamin, SW cor. SW, Section 30-15-8. Tidal Oil Co.'s No. 2 Jim, NW cor. NW, Section 31-15-8, is an old well preparing to deepen from 3,219 feet, building rotary. Tibbins Oil & Gas Co.'s No. 2 White, SW cor. SE NW, Section 6-14-9, spudding. Murta and others' No. 1 Stewart, C SW NW, Section 32-17-12, has been abandoned in sand 2,702-05 feet. Ted Ray Oil Corp.'s No. 1-A Baker, NE cor. NW NE, Section 14-17-10, has been completed for 20 bbls. in sand 1,915-50 feet, total depth 1,959 feet. Shell Petroleum Corp.'s No. 8 Bruce, SE cor. SW NE, Section 10-17-9, made 15 bbls. in sand 2,028-41 feet. Gilcrease Oil Co.'s No. 1 Bright, SE cor. SE, Section 26-17-9, has been abandoned in sand 3,245-66 feet. Robbins and others' No. 10 Lewis, NE cor. SW NE, Section 35-16-13, has been abandoned in sand 1,765-75 feet, total depth 1,960 feet. Olean Petroleum Co.'s No. 5-A Bigpond, NE cor., Section 36-15-7, made 250 bbls. in sand 3,772-77 feet. Tibbins Oil & Gas Co.'s No. 1 Long, SW cor. NE, Section 6-14-9, made 2,000,000 feet of gas in sand 1,002-12 feet.

Noble County

The Prairie Oil & Gas Co. is building rig for No. 1 Smyser, NE cor. SE, Section 5-20-1w.

Hughes County

Mid-Continent Petroleum Corp.'s No. 1 Tiger, SE cor. SW NE, Section 9-7-8, is a rig. No. 1 Harjo, SW cor. NE SW, Section 20-7-8, is a location.

Lincoln County

Mid-Continent Petroleum Corp.'s No. 1 Kilmer, SE cor. SE, Section 26-17-3, has been completed for 3,500,000 feet of gas in sand 3,930-81 feet, total depth 3,994 feet. Magnolia Petroleum Co.'s No. 3 Wagner, NW cor. NE, Section 17-14-4, has been completed for 1,432 bbls. in sand 5,154-63 feet.

Pawnee County

Buckles and others' No. 1 Jamison, NW cor. NE SE, Section 13-20-9, is a machine rigging up. Swift and others' No. 7 Smelzer, SW cor. NE, Section 35-20-9, has been completed for 12 bbls. in sand 1,973-94 feet.

Okfuskee County

Atlantic Oil Producing Co.'s No. 2 Mackey, NW cor. SW SE, Section 36-12-10, made 100 bbls. in sand 3,030-53 feet. No. 2 Fields, SW cor. NW NW, Section 13-10-11, made 40 bbls. in sand 2,120-32 feet.

Osage County

Indian Territory Illuminating Oil Co.'s No. 438, SE cor. SW, Section 15-25-12, is a cellar. Clint Moore estate and others' No. 9, CEL E half W half NW, Section 16-21-9, has been abandoned at 2,380 feet. Hill Drilling Co. and Devonian Oil Co.'s No. 2, NW cor. SE NW, Section 29-21-11, has been abandoned in sand 2,118-48 feet.

Payne County

Deep Rock Oil Corp.'s No. 2 Harris, SW cor. NE, Section 9-18-5, is a location. Comar Oil Co.'s No. 1 Driggs, NW cor. SW NE, Section 30-18-5, is an old well preparing to deepen from 3,780 feet, rigging up rotary. Magnolia Petroleum Co.'s No. 3 Payne, SE cor. NE, Section 6-17-4, is dry and abandoned at 4,258 feet.

Pontotoc County

Gwinn and others' No. 1 Newby, NE cor. SE, Section 24-5-4, is a location. Benedum-Trees Oil Co.'s No. 2 Stafford, SE cor. SW NW, Section 31-5-5, has been completed for 70 bbls. in sand 2,567-2,670 feet, total depth 2,675 feet.

Pottawatomie County

Shell Petroleum Corp.'s No. 1 Baker, NW cor. SE, Section 10-10-4, is a location. Transcontinental Oil Co.'s No. 2 Miller, NE cor. NE, Section 22-6-3, is dry and abandoned in sand 3,605-19 feet. Indian Territory Illuminating Oil Co.'s No. 1 Gregg, NW cor. SE SW, Section 23-6-3, has been completed for 279 bbls. in sand 3,512-31 feet. Wilcox Oil & Gas Co.'s No. 4 Warren, SE cor. NW SW, Section 23-6-3, made 580 bbls. in sand 3,484-3,504 feet.

Seminole County

The Texas Company's No. 1 Tulsay, NE cor. NW SW, Section 29-9-6, is a location. Gypsy Oil Co.'s No. 1 Pompey, SW cor. SE NW, Section 29-9-6, is a location. Gwinn's No. 1 Earls, NE cor. SE NW, Section 33-9-6, is a cellar. Gypsy Oil Co.'s No. 5 Coker, NW cor. SW, Section 2-8-5, is a rig. Eason Oil Co.'s No. 2 Anderson, SE cor. NW NE, Section 22-9-5, has been completed for 475 bbls. in sand 4,244 feet, after plugging back from 4,250 feet. Magnolia Petroleum Co.'s No. 3 Grounds, SW cor. NE NW, Section 23-9-5, has been completed for 347 bbls. in sand 4,336 feet, after plugging back from 4,338 feet. Barnsdall Oil Co.'s No. 2 Harjo, NE cor. NW, Section 20-6-6, has been completed for 224 bbls. in sand 2,873-2,906 feet.

Stephens County

Magnolia Petroleum Co.'s No. 1 Crews, SW cor. NE NE, Section 12-1s-4w, made 20 bbls. in sands 2,860-68 feet and 3,235-50 feet. Meridian Gas Co.'s No. 1 Burns, C SW NE, Section 35-2-9w, is dry and abandoned at 2,515 feet. Sykes and others' No. 3 Broadbent, SE cor. NW, Section 16-1s-8w, is a rig on ground.

Caddo County

Mid-Kansas Oil & Gas Co. and Ramsey Petroleum Co.'s No. 9 Wade, SW cor. SE SW, Section 2-5-9w, made 275 bbls. in sand 4,058-92 feet. Bullock and others' No. 2 Royce, SW cor. SE SW NE, Section 12-5-9w, has been completed for 70 bbls. in sand 3,072 feet.

Haskell County

Holden and others' No. 2 Phillips, SW cor. SE SE, Section 3-9-18, has been abandoned at 1,276 feet. Marion Oil

Co.'s No. 1 Sanders, NW cor. NE SW, Section 10-9-18, has been abandoned at 2,693 feet.

Grady County

Kahl and others' No. 1 White, SE cor. SW, Section 30-4-7w, made 10,000,000 feet of gas at 2,244 feet.

Latimer County

Limestone Oil & Gas Co.'s No. 1 Horton, trustee, NE cor. SW SW NE, Section 15-5-18, is a rig on ground. Le-Flore Oil & Gas Co.'s No. RO-13 Ferran, SE cor. SW SE, Section 2-6-22, has been completed for 20,000,000 feet of gas in sand 1,454-1,759 feet.

Muskogee County

E. Mills and others' No. 1 Lowery, NE cor. NW NW, Section 20-15-18, has been abandoned in sand 1,331-37 feet. George and others' No. 1 Manuel, NW cor. NW, Section 4-13-16, made 25 bbls. in sand 1,625-46 feet, total depth 2,560 feet. Dunbar and others' No. 1 Willis, SW cor. NW NW, Section 8-11-19, has been abandoned in sand 900-10 feet.

Okmulgee County

Rossiter Oil Co.'s No. 4 Burgess, CWL NE NW, Section 20-12-13, has been completed for 4,500,000 feet of gas in sand 1,086-1,245 feet, total depth 2,500 feet. Sims Oil Co. and others' No. 3 Smith, CEL NE SE, Section 21-12-14, made 1,750,000 feet of gas in sand 2,145-64 feet, total depth 2,864 feet.

Pittsburg County

Central States Pipe Line Co.'s No. 1 Koehler, NW cor. SW SW, Section 11-7-18, is drilling at 75 feet. Midwestern Oil & Gas Co.'s No. 1 Dyer, CSL SE SW, Section 4-7-18, made 14,000,000 feet of gas in sand 1,760-2,050 feet.

Oklahoma County

Mid-Kansas Oil & Gas Co.'s No. 1 Bell, NW cor. SE, Section 19-12-1w, is a cellar. Phillips Petroleum Co.'s No. 1 Bamewood, SW cor. NE NE, Section 3-11-3w, is a location. Phillips Petroleum Co. and Shaffer Oil & Refining Co.'s No. 1 Ashcan, NE cor. NE, Section 3-11-3w, is a location. Phillips Petroleum Co.'s No. 1 McBeth, NW cor. SE NE, Section 10-11-3w, is a location. Blackstock and Mabee's No. 1 Smith, NW cor. SE SW, Section 10-11-3w, is a cellar. Sinclair Oil & Gas Co. and Independent Oil & Gas Co.'s No. 3 School Land No. 69, SE cor. NE SW, Section 36-11-3w, is a cellar. Cromwell Oil & Gas Co. and Wirt Franklin Petroleum Corp.'s No. 1 Lincoln Park, SW cor. SW, Section 12-12-3w, is dry and abandoned at 4,535 feet. T. B. Slick Oil Co. and Atkinson's No. 1 Atkinson, CWL W half W half NW, Section 1-11n-3w, has been completed for 13,655 bbls. in sand at 6,074-6,342 feet. T. B. Slick Oil Co.'s No. 1 Daugherty, SW cor. SE NW, Section 2-11n-3w, has been completed for 3,272 bbls. in sand at 6,275-6,575 feet. T. B. Slick Oil Co. and Atkinson's No. 1 Alexander, SE cor. NE SW, Section 2-11n-3w, has been completed for 11,484 bbls. in sand at 6,308-6,568 feet. No. 2 Danruther, SE cor. NW, Section 2-11n-3w, has been completed for 1,853 bbls. in sand at 6,420-6,552 feet. No. 1 Trumbley, NW cor. NE SW, Section 2-11n-3w, has been completed in sand at 6,315-6,505 feet, for 202,000,000 feet of gas. Wirt Franklin Petroleum Corp.'s No. 11 Theimer, SW cor. NW SE, Section 2-11-3w, has been completed for 35,000,000 feet of gas in sand at 6,128-6,551 feet. T. B. Slick Oil Co.'s No. 2 Frost Heights, SW cor. SE SE, Section 10-11-3w, has been completed for 3,695 bbls. in sand at 6,545-6,626 feet. Indian Territory Illuminating Oil Co. and others' No. 5 Coppinger, SW cor. NW NW, Section 11-11-3w, has been completed for 3,938 bbls. in sand at 6,340-6,564 feet. No. 1 Starkey, NW cor. NE SE, Section 11-11n-3w, has been completed for 1,475 bbls. in sand at 6,195-6,480 feet. Cromwell-Franklin corporation and others' No. 25 Trosper Park, SE cor. NW SW, Section 12-11-3w, has been completed for 13,500 bbls. in sand at 6,378-6,438 feet. No. 22 Trosper Park, SW cor. NW NW, Section 13-11-3w, has been completed for 10,011 bbls. in sand at 6,261-6,404 feet. Julian Oil Royalty Co.'s No. 1 Shepherd, SE cor. NE NE NW, Section 14-11-3w, has been completed for 4,364 bbls. in sand at 6,415-6,523 feet. No. 1 Hauser, NW cor. NE NE NW, Section 14-11-3w, made 3,191 bbls. in sand at 6,460-6,522 feet. Indian Territory Illuminating Oil Co. and others' No. 2 Habegger, SW cor. SE NW, Section 14-11-3w, has been completed for 5,362 bbls. in sand at 6,475-6,530 feet. No. 1 Capshaw, SE cor. NW, Section 23-11n-3w, has been completed for 1,222 bbls. in sand at 6,399-6,555 feet. Indian Territory Illuminating Oil Co.'s No. 1 Mid-Texas, NE cor. SE NW, Section 23-11n-3w, has been completed for 6,009 bbls. in sand at 6,378-6,635 feet. Same company's No. 3 Mary Unsell, SW cor. NW NE, Section 23-11n-3w, has been completed for 1,921 bbls. in sand at 6,330-6,600 feet. Indian Territory Illuminating Oil Co. and others' No. 3 Wilkie-Anderson, SW cor. SE NE, Section 25-11n-3w, has been completed for 1,092 bbls. in sand at 6,470-6,504 feet. Sinclair Oil & Gas Co.'s No. 5 School Land No. 67, NW cor. SE, Section 36-11n-3w, has been completed for 31,361 bbls. in sand at 6,581-6,710 feet. Mid-Kansas Oil & Gas Co.'s No. 2 J. Browning, NW cor. SW NW, Section 18-11n-2w, has been completed for 203 bbls. in sand at 6,065-6,450 feet. The Prairie Oil & Gas Co.'s No. 7 Sigmon, NE cor. NW SW, Section 32-11n-2w, has been completed for 3,710 bbls. in shale at 6,645-74 feet.

Wagoner County

Reed and others' No. 1 Perryman, NW cor. NE NE, Section 36-16-18, is spudding. Lousing and others' No. 1 Bird, NW cor. NE SW, Section 26-17-15, is rigging up. Price and others' No. 2 Davis, NE cor. SW, Section 22-17-16, is a machine on ground. Martin and others' No. 2 Drew, CEL NE SW, Section 26-18-15, made 20 bbls. in sand 1,014-33 feet. Bolley and Edwards' No. 1 Childers, NW cor. NW, Section 34-18-16, is dry and abandoned at 735 feet.

CANADIAN FIELDS

(Continued from Page 64)

being due to the rapid expansion of the gas under high pressure. In the past few years a number of expedients in drilling and production have been tested to correct this condition; but without success. Calmont Oils' No. 2, with a wet gas flow of over 42,000,000 feet from the lime and potential crude naphtha recovery of around 1,200 bbls. freezes inside of four hours if allowed to produce to capacity, and is maintained in steady production by application of back pressure to reduce the flow to about one-eighth of normal, or around 150 bbls. It is understood Home Oil Co. is planning a systematic effort to overcome freezing and maintain its wells at maximum production.

Home Oil Co., whose Turner Valley acreage is being drilled by Imperial Oil, Ltd., has secured several thousand acres of potential oil lands near Eugene, Ore., and is planning to start a test there this fall.

Imperial Pipe Line

Recent reports indicate that with the Home wells back in production, the Imperial Oil, Ltd. pipe line is pumping around 3,500 bbls. a day to the Calgary refinery. Among the producing wells, Advance Oil Co.'s No. 5-A, the deepest producer, is reported to have increased its recovery to around 200 bbls. Royalite's No. 11, another new deep lime producer, is estimated at 200 bbls., and Royalite's No. 4 gusher, after a temporary interruption, is back to the same figure. Calmont's No. 2 is doing a steady 125 bbls. a day, Wellington's No. 1 making around 175 bbls., and Homestead Oils' To. 1 is doing 60 bbls.

Among the new Imperial producers, Dalhousie Oil Co.'s No. 7, LSD 11, Section 18-20-2w5, is still testing, and is reported making 130 to 160 bbls. from the deep lime at 5,339 feet with wet gas production measuring 12,102,000 feet a day.

Northwest-Associated's No. 2, LSD 6, Section 20-19-2w5, in the lime at 5,423 feet, is unofficially reported to have blown in with an estimated production of 200 bbls.

South Turner Valley

In Section 20-19-2w5, Calmont Oils' No. 7, LSD 11, is making new hole in the lime at 5,269 feet, after a production test whose results did not warrant stopping at the upper level. The test is now 307 feet in the lime. Calmont's No. 4 is at 4,856 feet.

Mercury's No. 3 producer, LSD 2, is reported making 219 bbls., and Mercury's No. 2 has been cleaned out and is giving about 60 bbls.

In LSD 1, Section 20-19-2w5, Wellington Oil & Gas Co.'s No. 2 is reported rigging up.

Central Turner Valley

In Central Turner Valley, Okalta Oils' No. 3, LSD 9, Section 1-20-3w5, is drilling 294 feet in the lime at 4,434 feet with over 7,000,000 feet of wet gas.

Red Coulee Field

On the Alberta end of the international Red Coulee Field, Taylor Syndicate's No. 1, Section 4-1-16w4, a direct north offset to Vanalta Oils' No. 2 producer, is reported in production at around 2,592 feet and making 80 to 100 bbls. Deliveries are being made to Imperial Oil, Ltd. This test was originally located as Vanalta Oils' No. 3 but has been drilled by the Taylor Syndicate. It is the fifth producer on the Canadian end. The test was backed by Vancouver, British Columbia, capital, and additional drilling will likely be undertaken at once. Dixie Oils' No. 1, LSD 10, Section 7-1-16w4, is reported below 1,600 feet. Dalco Oil & Gas Co.'s No. 2, LSD 7, Section 19-2-17w4, is below 205 feet. Southern Alberta Exploration Co.'s No. 1, LSD 8, Section 3-1-16w4, is being put on the pump and equipment moved to No. 2.

On the Montana end, Cosmos Petroleum Co.'s No. 2 Thacker, Section 2-37-4w, is reported pumping 180 bbls. at 2,560 feet. Cosmos' No. 1 has settled production about 150 bbls. Rig from No. 2 is being skidded for No. 3, offsetting Rice & Radigan's No. 2. Monalta Oil Co.'s No. 3, Section 1-37-4w, is reported to show increased production. Askalta Oils' No. 1 Vollbrecht, drilling not far from Hannah-Porter's No. 1 producer, is reported to have got an unexpected gas showing, apparently in a stray sand, between 1,500 and 1,600 feet.

Monalta Oil Co.'s No. 4 has been located offsetting Alberta Pacific Consolidated's No. 1 Singleton. The latter is reported testing production of the Vanalta sand. Test of the underlying Cosmos sand was not satisfactory. Monalta Oil Co.'s No. 2 Buckley, Section 1-37-4w, which has been standing on top of the sand at 2,515 feet, will be drilled into production as soon as equipment is released from No. 3. The latter is making 210 to 230 bbls. with production kept down as a precaution against water trouble.

Drilling in the Foothills

On the Moose Dome, northwest of Turner Valley, Moose Oils' No. 1, LSD 16, Section 29-22-6w5, is at 2,797 feet with 8¼-inch set at 2,600 feet. The well got a wet gas flow, estimated 10,000,000 feet, in the Devonian lime at 2,789 feet; pinched down to about 1,000,000 feet but thought to be frozen off. The well is shut in for a month to build up pressure in the hope it may clear itself; if this fails it is planned to resume drilling early in October.

Border Fields

In the border fields of southern Alberta, negotiations are still in progress between The Texas Company of Canada and Imperial Oil, Ltd., for a joint test on a structure parallel to and lying east of the Blood Indian Seserve. This will be the first production venture of The Texas Company in Alberta; and further activities will depend largely on the result of this test.

On the Montana side Westmont Oils' No. 2 has been located in Section 18-25-2w, in the Kevin-Sunburst Field and contract has been let to Nedpstedt & Vandernass. The test is being backed by Edmonton, Calgary and Lacombe capital, the company being headed by Frank McLean of Edmonton and George W. Hotson of Lacombe, Alberta. Monopeg Oil & Gas Co.'s No. 1, Section 28-35-1w, is reported to have started drilling.

Wainwright Field

In the Wainwright Field, east central Alberta, the latest summary shows relatively little drilling.

Bethwain Oils' No. 1, LSD 13, Section 6-45-6w4, failed to get satisfactory production in the Wainwright sands and is on top of the lime at 2,485 feet; it may resume with cable tools as a test of the lower horizons. Bethwain's No. 2, LSD 9, Section 4-45-6w4, is at 2,281 feet with a promising oil sand cored and looks like a producer. Daugherty Petroleums' No. 1, LSD 4, Section 28-44-6w4, has derrick up but will probably do no further work pending result of activities of the allied Peninsular Petroleums, Ltd. Edalta Oils' No. 1, LSD 15, Section 19-45-6w4, looks like a potential producer at 2,180 feet.

The one active test at present is Senator Oil & Gas Co.'s No. 1, E half, Section 23-44-6w4, which recently cemented first casing at 708 feet. It is understood three drilling crews will be put on.

Ribstone Field

In the Castor area, Hudson's Bay Oil & Gas Co.'s No. 1 Paint Earth, LSD 5, Section 27-39-15w4, is drilling below 1,050 feet.

South of the Paint Earth structure, the Sullivan Lake and Buffalo Lake areas are being core drilled by Alberta Pacific Consolidated Oils, Ltd. and Frontier Development Co., which jointly hold some 140,000 acres. Seven shallow structure tests have been completed, and six outfits are at work; in all some 20 of these tests may be put down before a commercial test is located. It is possible this test may not be started until spring.

Representatives of the Continental Oil Co. and Hudson's Bay Oil & Gas Co. recently inspected development work being carried on by the joint interests in Alberta. The party included D. J. Moran, president of the Continental; E. J. Nicklos, vice president in charge of production and E. S. Karstedt, vice president in charge of marketing. They were accompanied by R. Van A. Mills, who is looking after the local development.

Glen M. Ruby, president of the Nordon Corp., returned to Vancouver, British Columbia, recently from an extended trip to Europe, when he announced the practical completion of arrangements with an English corporation for extensive development work on Nordon acreage in Alberta and California.

Northern Alberta

In South Turner Valley, Northwest-Associated's No. 2, LSD 6, Section 20-19-2w5, recently placed on a production test, is unofficially reported making between 40 and 50 bbls. from the deep lime.

In LSD 11, same section, Calmont Oils' No. 4 entered the lime at 4,828 feet and is drilling around 4,840 feet. Calmont's No. 2, same LSD, has added a new battery of separators, with some increase in crude naphtha recovery.

Ontario Drilling

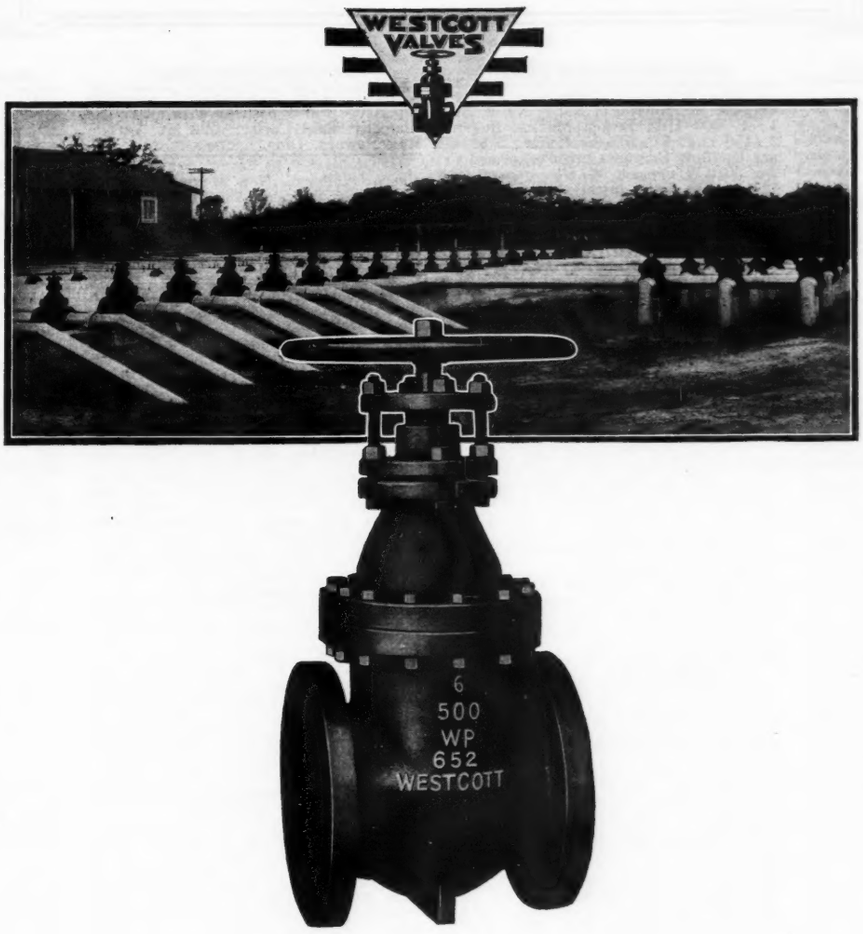
In Mosa Township, Middlesex County, Southern Ontario Gas Co.'s No. 3, near Newbury, is reported a dry hole at 1,905 feet after drilling through the Clinton into the Medina. Failure of Nos. 2 and 3 indicates that No. 1 on the Ernest Armstrong farm was a freak well. No. 1 drilled through what appeared to be about 15 feet of the Clinton formation, an abnormal thickness, and developed an initial gas flow around 1,500,000 feet. It is reported that closer study of the logs discloses two layers of the Clinton, with red shale between, indicating a faulted condition.

RESEARCH BIBLIOGRAPHY

The Division of Engineering and Industrial Research of the National Research Council, 29 West Thirty-ninth Street, New York City, has recently issued a bibliography entitled, "Five Years of Research in Industry," covering the period 1926-1930. This work has been under the direction of Clarence J. West, director, Research Information Service, and consists of a reading list of selected articles from the technical press on industrial research and presents a cross section of important research activities covering a wide range of industries.

ANGLO-PERSIAN OFFICIAL DIES

Mr. Hall, who recently retired from the Anglo-Persian Oil Co., Ltd., died August 8, according to advices received from the company's offices in London, England.



FLEXIBILITY—a Westcott installation handling 185,000,000 cubic feet of gas per day at 200 pounds gage, with flexibility for a maximum capacity of 250,000,000 cubic feet at 250 pounds gage — the largest Orifice Meter station in the world, in service for the Arkansas Natural Gas Corporation at Sterlington, La.

WESTCOTT VALVES

JEETA

Manufactured by the Westcott Valve Company, East St. Louis, Ill., manufacturers of products for the Oil and Gas Industries exclusively. Full stocks carried in East St. Louis and all stores of the Continental Supply Co.

35 CENTS a line first insertion; 25c a line each additional insertion. Cash in advance.

CLASSIFIED WANTS

CREATE AND BUILD BUSINESS

MAIL your advertisement now. It will be published next week. Cash with order.

FOR SALE—EQUIPMENT

TANK CARS

For lease 8,000 to 10,000-gallon cars. Immediate delivery. Write, wire or phone.
HYMAN-MICHAELS TANK LINE, Inc.
20 North Wacker Drive Bldg., Chicago, Ill.

FOR SALE—MACHINE TOOLS
Bargains in used and rebuilt lathes, shapers, drill presses, pipe machines, milling machines. Five hundred machines in stock. Terms to responsible parties. Write for catalog.
Cincinnati Machinery & Supply Co.
26 West Second St.. Cincinnati. Ohio.

FOR SALE
Sweetland Filters, Nos. 1, 2, 7, 9, 10; Kinney steam jacketed Rotary Oil Pumps; Plate Filter Presses; Wax Filter Presses; Tanks; Compressors; etc.
STEIN-BRILL CORP., 26 Cortlandt Street, New York, N. Y.

TANK CARS—FOR SALE
8,000-gallon, for clean service; inspection at our shop, Houston, Tex. Fifty-four now ready for loading, to any territory, giving free delivery to purchaser; bargain prices.

M. R. DUCEY RY. CAR CO.
Houston, Tex. P. O. Box 223

Two Thousand Feet of six and five-eighths, twenty pound, California casing, new, and One standard rig complete with tools, engine and boiler. Chicago delivery. William H. Cater, 2643 W. Monroe St., Chicago, Illinois.

ONE 2,000-lb. DEMENT-NILES steam hammer, in use less than two years. One Bradley strap 60-lb. hammer 90% new. One 70 H. P. stationary boiler with stack. One number 4 Lapoint screw type broaching machine practically new. Above material in good condition. Larkin Packer Co., 6200 Maple Ave.. St. Louis. Mo.

THIRTY-FIVE HUNDRED FEET eight and five-eighths thirty-six-pound seamless casing; also five thousand feet six and five-eighths twenty-four-pound seamless casing only used in one well; almost new pipe. Located in Central Kansas on railroad. Answer Box E-267, The Oil and Gas Journal, Tulsa, Okla.

STANDARD CABLE DRILLING RIG nearly new, Steel wheel, Steel Calf Wheel, Steel posts, roller bearing chain driven sand reel, six thousand feet one inch drilling line, fifty-five hundred feet sand line, steel band wheel, all of this was new and only drilled eight hundred feet hole; also Ajax engine walking beam and timbers belt. Four five hundred barrel storage tanks and one Gum Barrel Tank quite new; never have been used and located in Central Kansas on railroad. Write Box E-266, The Oil and Gas Journal, Tulsa, Okla.

FOR SALE CHEAP
Small stock oil field pumping equipment; all new, including standing valves, balls and seats, recessed tubing couplings, etc. O. C. Griffin, 1325 Franklin Ave., Waco, Tex.

FOR SALE: 1—120 H.P. Climax Paymaster Drilling Engine complete with Bessemer Counter Shaft, pulleys (56" & 72") for Counter shaft. All tools and equipment ready for use. Engine completely overhauled and ready for immediate use. $2,500 cash. L. M. McLeod, Box 111, Tulsa, Okla.

TWO ASKANIA-WERKE vertical type magnetometers in perfect order. Almost new. Address The Oil and Gas Journal, 538 Ricou-Brewster Bldg., Shreveport. La.

FOR SALE OR RENT—USED COMPLETE HEAVY AND LIGHT ROTARY DRILLING RIGS; ALSO ALL SIZE PIPES AND CASING AT REDUCED PRICES. TEXAS SUPPLY CO., P.O. BOX 1777, HOUSTON, TEX.

FOR SALE—EQUIPMENT

FOR SALE—8 Sweetland Filter Presses, No. 10, No. 9, No. 7, No. 2, No. 1; 1—300 H.P. Scotch Marine Boiler; 2—150 H.P. Fitzgibbons Boiler; 2 Skinner Unaflow Engines, direct connected to 2—200 KW Crocker Wheeler generators, 125 to 250 volts, installed 3 years; 15 Motors ranging from 200 H.P. to 15 H.P., 3/60/220; Miscellaneous—Compressors, Storage Tanks, Pumps. CONSOLIDATED PRODUCTS COMPANY, INC., 17-20 PARK ROW, NEW YORK CITY. BARCLAY 0600.

BARGAIN—In Montgomery County, Texas, half mile R.R. station, splendid light rotary, 1,500-foot drill stem, 45 H.P. boiler, 20 H.P. engine. Everything ready to set up and drill 3,000 feet. Make offer. No triflers. Russell Co., DeMenil Bldg., St. Louis, Mo.

SPECIAL OPPORTUNITY
35 Miles of 8" 29-pound Line Pipe
6 Miles of 6" 20-pound Line Pipe
Stacked and ready for immediate shipment. Can lay down at Mid-Continent points at unusually low prices. Write or wire for full particulars.
The
MID-CONTINENT EQUIPMENT CO.
Denver. Colo.

COMPLETE ROTARY DRILLING RIG together with drill stem, all in fine shape. Located in Central Kansas on railroad. Write Box E-265, The Oil and Gas Journal, Tulsa, Okla.

EQUIPMENT WANTED

FIRST CLASS oil field drilling and production equipment. I will buy, sell or trade. P. O. Box 1214, Seminole, Okla.

WANT GOOD SECOND HAND ROTARY equipment with about 4,000' of 4" drill stem. To receive consideration must be complete outfit and in good workable condition. Also want to communicate with reliable rotary man having rig in good condition and willing to co-operate with experienced party on contract work. Communicate either by wire or letter with Robinson, Post Office Box 186, Mt. Pleasant, Michigan.

DEXTER VALVE RE-SEATER WANTED. Will buy for cash if cheap and in good condition. Address Box E-276, The Oil and Gas Journal, Tulsa, Okla.

MONEY RAISING

BULLETIN, containing information of priceless value to responsible parties seeking capital, yours upon request. Free analysis and advice cheerfully given. Moderate rates. Prompt Service. Morris, Financing Specialist, 3608 Warren St., Philadelphia, Pa.

CAPITAL — An experienced, dependable broker will aid in financing propositions of merit. Amster Leonard, East Orange, N. J.

CORPORATE organizing and promoting of meritorious enterprises; reorganizations and new financing.
The BROOKWORTH CO., INC.
110 East 42nd St., New York, N. Y.

DO YOU NEED MONEY for organizing or financing oil or mining deals? Write 2443 N. W. 12th. Oklahoma City.

LARGE LOANS available for sound oil and gas properties. Give full details. Mr. R., Room 606, Guarantee Trust Bldg., Philadelphia, Penna.

CONTRACT WORK

TROUBLE—If it is a fishing job, or having trouble shutting off water, or finishing bad wells. I make cable tools a specialty. By day or contract. With references. Write Millard Tedford, 2138 Ave. D., Wichita Falls, Tex.

WANTED

WANTED: BULK PLANT, Central states, with or without filling stations; on lease, with purchase option. Minimum 75,000 gallons monthly. Proposition should have site for expansion, by independent operators skilled in manufacturing and sales. All replies acknowledged after October 15. Address Box E-279, The Oil and Gas Journal, Tulsa, Okla.

POSITIONS WANTED

GRADUATE GEOLOGIST practical experience wants position with oil or gas company. Paul Farmer, 522 Mt. Vernon Rd., Newark, Ohio.

GEOLOGIST — Seven years' experience Oklahoma, New Mexico, Colorado and Texas, desires connection with company or individual. Domestic or foreign service. Write Box E-275, The Oil and Gas Journal, Tulsa, Okla.

REFINERY engineer, superintendent, sales engineer, graduate engineer; age 38, 10 years' experience as refinery engineer, superintendent, manager. Experienced in all branches of petroleum industry. Capable designer, operator, executive; gets splendid co-operation from men. Sales experience. Particularly experienced in rebuilding and modernizing old plants, making them produce. Thorough knowledge of several cracking plants. At present employed; best references. Foreign work acceptable. Write Box E-271, The Oil and Gas Journal. Tulsa, Okla.

GRADUATE GEOLOGIST and mining engineer with 10 years' varied engineering and geology experience desires permanent position with responsible oil company. Prefer Mid-Continent Field. References. Write Box E-263, The Oil and Gas Journal, Tulsa, Okla.

TWO MAP DRAFTSMEN want extra work. Ten years experience. Reasonable rates. Write Box E-277, The Oil and Gas Journal, Tulsa, Okla.

ST. LOUIS ATTORNEY with best references and eight years experience in general practice desires connection with oil or natural gas company in law, land, leasing or other capacity which affords opportunity; salary to be discussed. Address Box E-278, The Oil and Gas Journal, Tulsa, Okla.

HELP WANTED

LUBRICATION sales engineer wanted; experienced in application of petroleum products to industrial uses and all types of machinery; for co-operative work with the sales department of large Mid-Continent refinery. State full qualifications, education, training, experience, etc., in first letter. Answer Box E-272, The Oil and Gas Journal, Tulsa, Okla.

WANTED—General manager or operating vice president for well-established natural gas company wholesaling its products in Appalachian field. Must have had actual experience, have good personality, be capable executive, good trader with experience in the selection and development of acreage; active, energetic, loyal, reliable with unblemished record for integrity. Address, giving full record of business, personal history and salary requirements with references. F—Box 47, Trinity Station, New York, N. Y. Replies will be regarded as confidential.

OIL INDUSTRY PRINTING

OIL FIELD LEGAL BLANKS
Leases, assignments, releases, township plat books, well records, etc. Request on your letterhead gets free catalog. Old Press, 215 East Third St., Tulsa, Okla.

PATENT ATTORNEYS

REGISTERED PATENT ATTORNEYS
United States and Canada
Before disclosing your invention to anyone, send for blank form.
Evidence of Conception
Bulletin "How to Establish Your Rights" and complete information free.

LANCASTER, ALLWINE & ROMMEL
240 Onray Bldg. Washington, D. C.

FOR SALE—MAPS

SOUTHEAST NEW MEXICO
MAPS
Send for list.
THE M. H. HUNTER CO.
Roswell. N. Mex.

BUSINESS OPPORTUNITIES

SEVEN THOUSAND ACRES on approved geological survey. Liberal divide for drilling. Charles Durfee, Golconda, Illinois.

BUSINESS OPPORTUNITIES

OIL LOCATED before drilling. Geophysical method. Toggodometer Instrument; take pay in oil. No oil, no pay, except traveling and testing expenses. 96 per cent accuracy. O. P. Coffin, Caddo. Tex.

MAN OR ORGANIZATION now doing business with Natural Gas and Natural Gasoline Industries to handle line of well known equipment. Write Box E-253, The Oil and Gas Journal, Tulsa, Okla.

MINING PROPERTIES and new inventions inspected, organized and financed under declaration of trust. R. D. Ryan, Lawyer, office Shadyside, Ohio, residence, Chloride, New Mex.

WILL LEASE
Ideal test site; in triangular position with Warr's and Sunset Park tests; five acres, SW¼ 18-11-3w. In line with city wells and Bethany. Mrs. Verna Nelson. Altus, Okla.

OIL DEVELOPMENT. Have oil acreage in Montague Co., Texas. Want deep oil well drilled. Will put up 1,000 acres for well. Write Box 47, Vincennes, Ind.

HOMES

Business Properties

Real Estate Securities and Loans

PATTON-LIPSCOMB
CASSIDY-ARMSTRONG

Western National Building

San Antonio, Tex.

OIL-PRODUCING PROPERTIES for sale, Arkansas and Louisiana. Address G. Lucas, 325 Ricou-Brewster Bldg., Shreveport, La.

FOR SALE—In fee, 720 acres wildcat, part of large tract. Recommended for drilling by leading geologist. In blocks of 40 acres or more, $50 per acre; $12.50 cash, balance at 6 per cent from one-sixteenth oil and gas produced and sold. R. R. Nelson, 1335 Birch Street, Denver, Colo.

IDEAL SERVICE STATION site in growing Marion, Ohio. George and Greenwood Streets. Opportunities to develop one or more lines of business. T. R. O,Brien, 82 Linden Ave., Middletown, N. Y.

BEST PRORATION: Wildcat. 5,000 acres on good structure for well or bottom hole money. Write N. Station, Box 5398, Amarillo, Texas.

$8.00 BUYS DEED part oil 10 acres, second pool opening, 180 wells drilling. Joe Milam, Dept. U., Oklahoma City, Okla.

GEOPHYSICAL METHODS oil and gas locating. Write Box E-274, The Oil and Gas Journal, Tulsa, Okla.

CAN BUY entire output of two Oklahoma City wells provided can contract with reliable parties who will take oil at well and make satisfactory arrangements for shipping and settlement. Worthen Petroleum Co., Oklahoma City, Okla.

DRILLERS and contractors take notice: 20,000 acres under lease in Boone County, Illinois; live oil seepage on structure. Three possible oil horizons estimated at less than 3,900 feet. Would like to hear from drillers willing to put down well for acreage. The Boone-McHenry Co., Belvidere, Ill.

$100 INVESTED NOW should be worth $10,000 when Gusher comes in. Down 1,000 feet. Rush order. J. R. Baker. Shelbyville, Ill.

FOR SALE—In fee, 720 acres wildcat, part of large tract. Recommended for drilling by leading geologist. In blocks of 40 acres or more, $50 per acre; $12.50 cash, balance at 6 per cent from one-sixteenth oil and gas produced and sold. R. R. Nelson, 1335 Birch Street, Denver, Colo.

35 CENTS a line first insertion; 25c a line each additional insertion. Cash in advance.

CLASSIFIED WANTS

ARE RELIABLE BUSINESS AGENTS

WHAT have you to sell or offer? Our readers all turn to the Classified Pages.

LEASES—PRODUCTION

Thousands of acres Oil and Gas Leases to let on Overriding Royalty, West Ky., proven field. Many large companies operating now. Pipe lines building, also royalties and production for sale. W. S. Lowery, Salem Star Route, Marion, Ky.

FOR SALE: 5,000 acres oil and gas leases on structure, settled production. Royalties and mineral rights on large tract. Complete data furnished on application. W. P. Harley, Bowling Green, Ky.

OIL LEASES AND ROYALTIES
Bought and Sold
In the Hobbs Pool
Lea County, N. M.
A. L. Gurley, Hobbs, N. M.
P. O. Box 26—Phone 6

HAVE TWO BLOCKS OF ZAPATA COUNTY, TEXAS, 10-year leases, with 25-cent rentals and close to nine years to run. One block consists of 3,804 acres and the other of 1,095 acres. Five tests being drilled close to this acreage. For maps and prices address R. O. Zielinski, 12836 Wood Street, Blue Island, Ill.

WILL SELL ALL or part working interest in 13,000-bbl. producer in Oklahoma City Field. P.O. Box 489, Shawnee, Okla.

BARGAIN twenty year leases, large and small, among and adjoining leases picked and bought by major companies along Balcones and Gueydan Fault Zones. A real geology shows formations underlying which produce in three surrounding major pools. Non-forfeiture four payment option terms give you control of price and sale delivery regardless of drilling developments. See maps and detail. R. R. Fisk, Box 1214-L, Wichita Falls, Texas.

PROMOTERS
or
OPERATORS

I own 7,600 acres of land in one block within 1½ miles of production in Port Barre Oil Field in St. Landry Parish, Louisiana.

1,200 acres at present under lease to The Texas Company. Excellent geology over entire tract. Am interested in having remaining unleased acreage developed.

Will make exceptional proposition to any promoter or operator who is in position to develop this acreage. All financing for development must be done by contracting parties. Address

Warren Lewis,
Care St. Landry Realty Corp.,
608 South Dearborn St., Chicago, Ill.

FOR LEASE—100 acres coal close in to main line, Kansas City Southern Ry. Jasper N. Butler, Poteau, Okla.

WILL LEASE

Ideal test site for immediate development in triangular position with Warr's and Sunset Park test; five acres, SW¼ 18-11-3w. In line with Oklahoma City wells and Bethany. Mrs. Verna Nelson, Altus, Okla.

FOR SALE: LEASES—ROYALTY
10,000 acres in Leases @ $1.00 per acre.
5,000 acres in one-half Royalty @ $2.00 per acre.
1,000 acres land in Fee @ $4.00 per acre.
in
VAN BUREN COUNTY, ARKANSAS
All on structure. Close to proposed drilling sites.
W. F. BRIDEWELL & COMPANY
P. O. Box 1125
Little Rock, Arkansas

BARGAIN twenty year leases, large and small, among and adjoining leases picked and bought by major companies along Balcones and Gueydan Fault Zones. A real geology shows formations underlying which produce in three surrounding major pools. Non-forfeiture four payment option terms give you control of price and sale delivery regardless of drilling developments. See maps and detail. R. R. Fisk, Box 1214-L, Wichita Falls, Texas.

FOR LEASE, owner, South East ¼ Sec. 33, T. 17n, R. 5e, Lincoln County, Okla. Address 1746 Glenwood Road, Glendale, Calif.

LEASES—PRODUCTION

BLANCO COUNTY, TEXAS, 36 acre oil and gas lease for sale. W. E. MacMillan, 601 West 63rd Pl., Los Angeles, Cal.

NEW MEXICO LEASES: Lea, Eddy and Chaves Counties. H. T. Orcutt, 1014 Colcord Bldg., Oklahoma City, Okla.

OIL LEASES — 88 form, semiproven shallow field, Anderson County, Kansas. Will assign acreage for drilling well offsetting 80 acres. W. L. Morris Loan Co., Garnett, Kans.

ROYALTIES—PRODUCTION

LEA COUNTY now has several real GUSHER OIL WELLS. For Sale Lea County perpetual deeded oil royalties under Major Oil Company leases. Also five year state oil and gas leases located ahead of developments. Small investment, easy terms. Monarch Investment Co., Roswell, N. M.

FOR SALE producing and non-producing royalties, good geology under major companies' blocks in Southwest Texas. C. H. Bailey, 1712 Milam Bldg., San Antonio, Texas.

FOR SALE: All of a one hundred acre spread undivided royalty in the new I. T. I. O. block of Haskell County, Oklahoma. Adjoins and surrounds location. Not less than ten acre spreads to be sold. Priced at $750.00 per spread for next ten days only. Telephone: Wabash 6900. F. H. Bauckmeyer, 323 South Wabash Avenue, Chicago, Illinois.

STEPHENS county royalty for sale. 500 full acres under 2,700-acre spread. Clyde Miller, Duncan, Okla.

OIL ROYALTIES: Invest in new territory where profits of 500 to 1,000 per cent are being made. A. Raymond, Box 1776, Great Falls, Montana.

ROYALTIES—PRODUCTION

WE WANT good oil and gas royalties. Send us full information with reports. U. S. Royalties Corporation, C. A. Johnson Bldg., Denver, Colo.

BEDROCK ROYALTY PRICES ahead of drilling on major company blocks. $6 per square mile. Perpetual deeds and title warranty. Clearly stated and understandable interests. See maps and bulletins. R. R. Fisk, Box 1214-B, Wichita Falls, Texas.

FOR SALE—One per cent royalty on Sections 5, 7, 9 and 21, Township 57n, Range 101w, Badger Basin, Wyoming; well drilling at 6,500 feet. Geology by Lufton and Kearney. Well should be completed within next 30 days. This is one of the best looking structures in Wyoming. This royalty is all well located on structure and priced to sell. Wire or write Post Office Box 1787, Great Falls, Mont.

WILL sell 1/128 interest in settled producing royalties under 151 acres with 31 wells in Dunn Field, Brown County, Texas. Present income approximately $50 per month. Answer Box E-270, The Oil and Gas Journal, Tulsa, Okla.

$100 buys 1/4096 part landowners ⅛ under one hundred thousand acres. Twelve Texas counties. One well starting on royalty. Much drilling activity near. Write J. O. & S. B. Evans, Saline, La.

TEXAS OIL ROYALTIES
Bought and Sold.
Inquiries Invited.
J. G. REAVES
Milam Bldg., San Antonio, Tex.

ROYALTIES—PRODUCTION

OKLAHOMA OIL ROYALTIES
Royalty Sales Company
Suite 523 105 N. Clark St. Chicago.

ROYALTY BARGAINS in Oklahoma, Lincoln and Pott Counties for sale. American Inv. Co., 201 Elks Bldg., Oklahoma City, Okla.

ADVERTISING RATES

	1 time	2 times	3 times	1 mo.
3 lines	1.05	1.80	2.25	3.30
4 lines	1.40	2.40	3.40	4.40
5 lines	1.75	3.00	4.25	5.50
6 lines	2.10	3.60	5.10	6.60
7 lines	2.45	4.20	5.95	7.70
8 lines	2.80	4.80	6.80	8.80
9 lines	3.15	5.40	7.65	9.90
10 lines	3.50	6.00	8.50	11.00

(Six words usually make a line)

Compute white space at the above rates.

Mail your advertising to

THE OIL AND GAS JOURNAL

Tulsa, Oklahoma

DELIVER YOUR MESSAGE TO CENTER OF ACTIVITIES

The Oil and Gas Journal has a world-wide circulation going to all Oil Fields, Refineries, Natural Gasoline Plants, Pipe Line Stations and offices of oil men everywhere.

The Oil and Gas Journal has a wide range of influential readers from executives in elegantly furnished offices to drillers in sunbaked huts in far-off tropical islands.

Oil and Gas Journal readers represent every branch and every department of the entire Industry. All read the Classified Wants Section every week.

Place your advertisement in the Classified Section where thousands of oil men see it. Send your ad now!

The OIL and GAS JOURNAL
PRODUCING REFINING ENGINEERING MARKETING
TULSA, OKLA.

WILL SELL ROYALTY UNDER PRODUCING WELL, Oklahoma City Field, $60 per barrel. Any amount up to 800 bbls. Address Box 489, Shawnee, Okla.

WHEN OTHERS fail try us for the right prices. Jobert Royalty Co., 319 Tradesmen's National Bank Bldg., Oklahoma City, Okla.

Raccoon Bend Austin Co. Texas offer 1/128 Royalty in 1,230 acres in Raccoon Bend. One of the best coastal fields. Between 75 and 100 producing wells in immediate vicinity. P. O. Box 202, Chapel Hill, Texas.

HOBBS, NEW MEXICO, royalty, from one acre up to 160 acres under the southeast quarter of section 1, township 20, range 38; $65 per acre; clean title; no mortgage; under lease to Shell; no brokers. Address Frank Strickland, Sapulpa, Okla.

FOR SALE: Royalty under W½ SE¼ Sec. 29-8n-4e, Pottawatomie County, Okla. Leased Phillips Petroleum. Price $160.00 per acre. Address Walter Pope, 901 Atlas Bldg., Tulsa.

DEEDED ROYALTIES: 10 acre tracts, Texas, Oklahoma, Colorado, New Mexico. Write for sale list. Continental Royalties, Inc., Box 1585, Amarillo, Tex.

INCORPORATIONS

DELAWARE incorporator. Charters fees small, forms. Charles G. Guyer, 901 Market St., Wilmington, Del.

CHARTERS — Delaware best, quickest, cheapest, most liberal. Free forms. Colonial Charter Co., Wilmington, Del.

FURNISHED HOMES

FURNISHED HOME FOR LEASE
FORT WORTH, TEXAS—Elegantly furnished eight-room house. Beautifully landscaped. Near best school. A real home. Long lease or sell. Ford Shook, Forth Worth, Tex., 608 Main St.

Prices May Improve in September

Indications That Competitive Conditions Responsible for Weak Market Will Change With Higher Quotations on Some Products

By J. B. Waldo

CHICAGO, Sept. 1.—Reports from Tulsa and other Mid-Continent points that prices on gasoline and several other products had been advanced was the encouraging news received Saturday and today. Although it is too early to determine what the reaction in this territory will be to these higher prices, it is believed that they will receive the support of most refiners.

Labor Day As a Marker

Labor Day is quite commonly the ending of the big gasoline business of the touring season because of the opening of schools, along with the shorter days. Before the day of the closed car, the motorist often stored his car for the winter shortly after Labor Day to take it out about Memorial Day. Now the motor car is used as much, in a business way, during the fall and winter months as at any time of the year.

This year Labor Day was prepared for on a liberal scale. Some of the major companies reported that they had been busy taking instructions from their contract customers and that they had moved a large volume of gasoline. It never has been the rule for the Chicago department stores to stay open on the Saturday preceding Labor Day, but they announced that they would be open Saturday afternoon. Business has been comparatively light with these stores this summer and they evidently resolved to miss no opportunity.

Some question has arisen as to the difference in prices asked for gasoline in the so-called differential territory east of the Mississippi River and the nondifferential territory west of the stream. The jobber west of the river is likely to pay from one-quarter to one-half cent more for his gasoline than the jobber east of the river. There is of course no fixed rule, but sample quotations showed that west of the Mississippi the jobbers were paying for Oklahoma U. S. Motor Gasoline from 5¾ to 6 cents. The jobber east of the Mississippi River was able to buy his U. S. Motor Gasoline at 5⅛ to 5⅝ cents.

Effect Would Be Small

If as is predicted the Group 3 market for U. S. Motor Gasoline is advanced to 6 cents this would have little effect on the gasoline market east of the river, where local refiners were in a frame of mind that made them reduce their price at the demand of a small jobber. Refiners seemed to take every advantage in the way location of crude supply or of any other difference between them and some other plant as a reason why they should pass that advantage on to the possible customer in the shape of a low price for gasoline. They acted as if to be found with a gallon of gasoline in their storage after the first of October would subject them to severe penalties and that the only thing to be done was to get rid of their gasoline.

Small jobbers in eastern Indiana reported that they had quotations of 5 cents flat over September. Up toward the middle of the debatable territory the price quoted was 5¼ cents over September. These prices were actually high compared with the prices named by refiners for the city of Detroit business, which went at .0805 cents, equal to .0435, Group 3.

Some of the best posted men in the industry have been asked for an explanation of the prices named but they had none. One man said that the refiners seemed to him to be in a panicky frame of mind. Another stated it was his conviction that the sales department had too much to do with the making of prices. His idea was that the sales department's business was to sell the product of the refiner, at a profit, and that they should be given a price at which to sell it, not allowed to make their own price.

Important Price Changes

September is too young yet to show any marked result of changes from August, but there have been some of major importance. Buyers of gasoline for resale report that the best price which they could obtain from the Shell organization was 5½ cents which would oblige them to sell, if at a profit, at 5¾ cents, and the Sinclair Refining Co. stated that it had no gasoline for sale, as its own requirements would take care of the company's present output. Another refiner that is out of the market for three or four months is the Indian Refining Co. of Lawrenceville, Ill.

The gasoline selling at less than 5¾ cents is either the remainder of the August purchases which were not sold during the month and have not been cancelled by the refiner, or some of the off quality gasoline. For example, one of the local marketers was offered 25 cars of motor fuel which was stated to be full U. S. Motor specifications but was off in color at 5 cents, Group 3. Another refiner offered its gasoline which has the initial and endpoint of U. S. Motor but is off in the intermediates at 5¼ to 5⅜ cents. Of course the owners of this gasoline who hold it for resale pass it on to their customers for what it is but making the best of the gasoline, and the customer if a jobber may find that he has made a poor purchase.

Future Uncertain

There are so many changes proposed to the industry that the timid man is afraid to move. Some of those who took advantage of the offers to buy their business sold because they did not know what was coming. There is the proposed gasoline pipe line from Oklahoma to Chicago and Minneapolis and others from Texas to St. Louis, as well as others in the East. What will be the result to the jobber? If one refiner had the sole use of the line it might have made a big difference to that refiner. But with five refiners participating in the use of the gasoline pipe line, it at least gives the jobber a choice of concerns with which to do business. There are many contingencies to be considered in such an undertaking as the building and operation of a 1,300-mile pipe line.

Another plan which is causing hesitation in formulating plans for expansion is the talk of the hydrogenation process. According to some reports, that process is going to give 40 or more gallons of superior gasoline from each barrel of crude or fuel oil and the jobber is afraid of what might happen. But there are other processes which give a large gasoline yield and the cost of securing distribution through refinery owned stations is too great for any refiner to try to sell his entire possible output through his own stations. It takes a long time to build up such a system. The real trouble is that the prices have been so low to the refinery that the refiner has been obliged to seek new ways and means to manufacture and dispose of his product. If the refiner can keep his refinery up to date and thoroughly modern in equipment, he will find that he has a load and that he can best delegate the distribution to those in the business, thereby saving time and investment provided that the price paid for the gasoline or other product of the refinery is sufficient to afford the refiner a real profit.

Kerosene has been quiet, but some refiners who have been fortunate in the matter of sales have advanced their price from 3 to 3⅛ and 3¼ cents. It is regarded as good policy to advance this price for in the first place no one is going to lose much business if the price is too high as compared with other refiners. And some, if not all, of these other refiners will advance their price and the effect will be felt in the entire list of products. There is not a product of the refinery that is not selling at too low a price, the cost of crude and operating costs being considered. Some kerosene has been offered as low as 2⅞ cents for resale, but it created no enthusiasm. There is no present demand for any large quantity of kerosene. Jobbers state that they sell from 25 to 40 per cent as much kerosene as they did two years ago and no price reductions will materially increase consumption. A general advance in kerosene might have a very good effect on the distillate market. It has not seemed possible to charge more for a distillate than for kerosene, yet some refiners have done so and at least one of the refiners who has advanced the kerosene price is still below his market for furnace oil, which is a special product.

Furnace Oils More Active

Furnace oils are a little more active. There is more doing in the making of contacts for one thing and some oil is moving to storage with the distributors. There have been a number of good distributors as well as some of the smaller ones who have felt that after their experiences of last season they could do just as well buying in the spot market as they needed the merchandise. The present contracts offer the buyer who makes a contract no advantage over the spot buyer under ordinary conditions. The buyer is quoted the low or the average of the published quotations at the day of shipment, which is the spot market. The advantage if any is that the buyer should be certain to receive the oils ordered out. Many of the earlier contracts call for a maximum and minimum price and the minimum price in many contracts is higher than the spot market of today.

Some refiners who had such contracts have stated that they were not receiving any shipping instructions on their contracts and that they might be obliged to modify the minimum price. Some late contracts call for the low of the chosen periodical and have no high or low prices named and these are the kind on which instructions are being received. For example, some call for a price of 60 cents as the low on a contract for 18-22 fuel oil. This grade of oil can be bought for 50 cents from several of the good refiners today so that no distributor is going to pay more and consequently he will be slow to order out any 18-22 fuel oil under such a contract.

No Change in Spot Prices

The demand is general for all grades of domestic furnace oil. There has been no change in prices for spot business. Zero gas oil is priced at 2¼ to 2½ cents, according to color, and distillates are being quoted at 2¾ to 3 cents, the latter for a prime white distillate. The fuel oils wanted chiefly for the domestic oil burner are the 28-30 zero, which is selling at 77½ to 82½ cents, the 24-26 zero which is priced at around 60 cents, and the 18-22 zero which will cost the distributor close to 50 cents. The demand due to present consumption is not large but there is something doing. The U.G.I., or gas makers' gas oil is steady at 2 cents, Group 3, for the 32-36 gas oil. Some slightly heavier gravity oil is selling at a little less and some that has something the matter with it, usually in the way of smell or foreign matter, is offered occasionally at 1¾ to 1⅞ cents, Group 3. The demand is not active but is a little better than it was, some of the companies being in the market for larger quantities than they have been buying. The price usually quoted is 2⅛ cents, but some of the purchasing agents say they have bought at 2 cents and even a shade lower, presumably from some refiner. Several good fuel oil men have stated their belief that the market for U.G.I. gas oil was close to the bottom right now and that it should move up a little this month as there will be more buying and a better demand.

Industrial Fuel Oils Looking Up

Industrial fuel oils have been inquired for a little more freely during the past week, and several concerns have bought who have been out of the market for months. In a general way, there is some industrial improvement, but at the same time the trouble has been slowly coming on for some time and it will not disappear over night. The report of the reserve bank for this district shows that while the number of persons out of employment has decreased slightly, the pay rolls have been sharply reduced both by short time and actual reduction in the wage scale. Savings accounts were drawn on during August. So that although about the usual number of workers are employed, they are earning a much lower wage and their purchasing power is reduced. Reductions and omissions in dividends have cut the income not only of the wealthy but of many in moderate circumstances. A moderate slow recovery of industrial activity is the best that can be expected for the early fall and winter months. There will be fuel oil business, but it will have to be fought for.

The demand for fuel oils has not been markedly better, although there have been additional inquiries due in part to its being the beginning of the month. The quantities wanted were not materially larger than the buyers have been ordering and much of the same conservatism was shown in making purchases.

Buyers Expect Low Prices

Buyers still expect low prices and some dealers have gone the limit in naming them. It would not be so bad were the prices named for the single order but many have quoted low figures for the season. The season quotations run about 60 to 70 cents for a low gravity zero fuel oil, either 17-20 or 18-22. The 22-26 or 24-26 is now considered as belonging to the domestic burner class, although much of the oil may be used in manufacturing or some form of industrial occupation such as laundries or bake shops.

Greenhouses use a good deal of fuel oil usually of the 24-26 gravity, although some are equipped to use a heavy oil and have some storage facilities. Fuel oil has proven itself a decided benefit to the greenhouse operator as it removes a large part of the danger of loss through freezing and nearly every large greenhouse is now equipped to burn fuel oil. The middle of the current month has been picked by fuel oil men as the time when there should be a more active demand. This is rather because of the need of preparing for the time when the heating plants will be used than any expectation of a large increase in the demand from the industrial users.

The business in lubricating oils has been light, jobbers ordering for their needs from time to time. The many brands of oil that have been put out during the current year which claim to be better than their predecessors have not been without influence on the consumers and the trade has benefited by an increased demand for the bigger grades of motor oils. Better prices have been ob-

(Continued on Page 138)

Irregular Market Continues in the East

Important Developments in Connection With Slowing Down of Refinery Operations Expected Within Next Few Months

By A. E. Mockler
New York Bureau, The Oil and Gas Journal, Rooms 1919-21, No. 154 Nassau Street

NEW YORK, Sept. 1.—Continued irregularity again characterized the refined products situation in the East Coast area during the past week, with the outlook for the near future rather bearish in so far as gasoline is concerned.

August sales, notwithstanding unfavorable weather conditions during part of the month, were well up to expectations and exceeded those for the preceding month in some instances.

There is no disguising the fact that refiners are disappointed in the failure of refined products markets to respond more promptly to the curtailment program initiated by the refining branch of the industry, and the failure of markets to show the expected response is being emphasized by leading interests of the industry as indicating the need for still further slowing down of operations to tide the industry over the winter season. It is expected that the next few months will witness some important developments along this line.

A development of paramount interest to the refining industry in this area is the trend toward the substitution of fuel oil for gas oil on the part of large gas companies. Two of the largest manufactured gas companies in the East are now using fuel oil in their gas manufacturing operations, and, while it is emphasized that this development is still in the experimental stage, it is reported that the experiment has worked out very well to date and that fuel oil may be expected to gradually supplant gas oil in this industry. This development naturally will benefit the fuel oil market, while its ill effects on the gas oil market will be minimized by the steadily growing use of the latter oil in domestic heating units.

Gasoline

Statistically, the market has shown further improvement with stocks at refineries in the East Coast area declining 643,000 bbls. in the week ending August 23 and standing at 5,555,000 bbls. on the latter date.

Unfortunately for the local refining industry, however, it has to contend with California, Gulf Coast and South American gasoline shipments as well as its own production, so the actual market position is much less favorable than is indicated by stock figures and the continued drawing against refinery holdings.

The postde price for U. S. Motor at refinery terminals in the New York harbor area continues unchanged at 9 cents per gallon in tank car lots, but the actual market is 8¼ cents for this grade, and some business could probably be placed at 8 cents flat.

There has been an exceptionally heavy movement from the refineries during the past several days with distributors stocking heavily in anticipation of a record volume of business over the Labor Day week-end. This movement, however, marks the swan song of the market for the current year, and indications point to a steadily tapering demand for motor fuel until the low consumption point is reached in midwinter.

In view of the imminent ending of the season of peak consumption, it is expected that refiners will further curtail their runs during the coming winter season in order to carry forward the movement for a general curtailment of stocks of refined products in this country.

Premium gasoline sales in the tank car market are showing a steady growth, and leading interests are of the opinion that notwithstanding the unfavorable uneconomic situation prevailing in some areas at the present time, sales of premium quality will exceed those of straight U. S. Motor Gasoline over the winter months.

Tank Wagon Gasoline

There were no general revisions in the tank wagon and service station price structure in East Coast markets during the week. Demand was holding up well, and a number of marketers reported that their gallonage currently was running at the high point for the season. Tank wagon delivery departments of principal companies were kept busy day and night over the week-end in keeping up deliveries, consumption having been materially stimulated by the fact that Saturday, as well as today, was observed as a holiday in many lines of business, making a triple holiday over the week-end.

Price cutting is still rampant in most parts of the East, and this is taking in both the independent and the better known brands. There are no signs of early improvement in this respect; in fact, the outlook would indicate that the situation will become worse rather than better as the season progresses and competition for gallonage becomes more spirited as consumption eases off.

Kerosene

Business has picked up a little, but competition remains sharp and price cutting is still the rule rather than the exception. The posted price for 41-43 water white at the refinery is 6¾ cents per gallon, but 6¼ cents is nearer the market and some business is reported to have gone through under that figure.

Refiners are making determined efforts to cut down their kerosene stocks and this tendency naturally does not make for a strong market. A good volume of business on kerosene distillate has been booked for the winter months, and deliveries on these contracts will probably get under way the latter part of the month.

Tank wagon kerosene markets are fairly active in the East with quotations unchanged.

Fuel Oil

Two of the largest gas manufacturing companies in the East are now reported experimenting with fuel oil in place of gas oil in their manufacturing operations, and refineries expect a gradual trend away from gas oil toward the cheaper heavier oils as these experiments progress. Consolidated Gas Co. of New York is the latest utility to become interested in the possibilities of bunker oil in its gas-making operations, and is reported utilizing the cheaper and heavier oil quite largely.

There has been a good contract movement of bunker "C" to the marine trade during the current week and the market remains unchanged at $1.15 per barrel. Outside fuel oils are not reaching the East Coast in sufficient volume to threaten the stability of the market, and the undertone has firmed up a little.

Holdings of gas and fuel oils at East Coast refineries showed a gain of 627,000 bbls. during the week ended August 23, totaling 10,622,000 bbls. on the latter date.

Furnace Oil

Marketers are going into the new season with a record volume of contract business on their books, and indications point to new high gallonage totals this year.

Prices quoted on the various furnace oils in the East are as follows: 36-40, from 8½ to 10½ cents per gallon, as to territory; 32-36, from 7 to 9 cents per gallon; 28-32, from 7 to 9 cents per gallon; 24-26, from 6 to 6½ cents per gallon, and 14-16, from 4 to 4½ cents per gallon, all delivered, tank wagon.

With manufacturers of oil burners making further improvements in their product, it is reported that a larger percentage of consumers will use the lower grades of oil this year.

Several of the oil burner manufacturers have drastically lowered their prices this year, and with most of the manufacturers extending the privilege of installment payments, sales have shown substantial gains and manufacturers are optimistic regarding the outlook for new business during the next few months.

Diesel Oil

The past week has been an uneventful one in the Diesel oil market, with business holding up well and the market unchanged at $2 per barrel, in bulk, at refinery terminals.

Refiners report a steady increase in sales to the marine industry, and domestic consumption is also on the increase. This is the only branch of the refined products industry where topheavy supplies have not made production curtailment essential, it is said, and the market is in satisfactory statistical position.

Gas Oil

Notwithstanding the use of fuel oil in place of gas oil on the part of some gas manufacturing companies, there has been a substantial gain in demand for gas oil from the artificial gas industry during the past week, and further improvement is looked for during the next few months.

The posted price of 5¼ cents per gallon is still being shaded by a quarter to three-quarters cent per gallon, but refiners report that price competition is easing off a little, which would indicate a gradual recovery in the price basis.

Low-grade gas oils a few years ago more or less a drug on the market have now come into their own as furnace fuel, and a large volume of business has been booked on these lower grades for the coming winter season.

Lubs

Spot trading in cylinder oils has remained quiet and the market in consequence has eased off further. Offerings of 600 steam refined are reported locally at 17 cents per gallon, one-half cent under previous quotations, with 635 and 650 showing similar reductions at 19 and 23 cents, respectively. Warren 600 E is quoted down 1 cent at 24 cents per gallon, with Oil City E showing a similar decline to 23 cents per gallon.

Export demand for cylinder oils has failed to show the expected improvement, and with refinery stocks still heavy, notwithstanding the curtailment in output, there is still a little selling pressure noted on some grades.

Red and pale oils were without change during the week, either as to demand or price.

Wax

The market has stiffened a little under better buying, attributed to covering up short interests. Spot 130-132 a.m.p. fully refined is up an eighth at 3¾ cents per pound, with 135-137 a.m.p. showing a corresponding increase to 4¾ cents per pound.

Export inquiry for crude scale has picked up, and more buying of fully refined for export is also noted. Most of the actual buying, however, is confined to wax for prompt and nearby shipment, little interest being shown in later deliveries.

Gulf Export Market

While no actual business in gasoline was placed in the Gulf cargo market this week, trade interest was stimulated by an inquiry for 20,000 tons of 61-63, 390 endpoint naphtha for shipment September, October and November. The inquiry was attributed to an interest close to the Spanish Petroleum Monopoly.

A cargo of California straightrun 30 plus gas oil was closed during the week for shipment to the United Kingdom, first half October shipment, at a reported price of 86 or 87 cents per barrel, f.o.b. The cargo consisted of 6,500 tons. South America was inquiring for a 9,000-ton cargo of California gas oil for October loading.

There were no developments of general interest in the Venezuelan or Mexican markets during the week.

Imports

Imports of crude and refined petroleum at the principal United States ports for the week ended August 23 totaled 2,319,000 bbls., a daily average of 331,286 bbls., compared with 1,939,000 bbls., a daily average of 277,000 bbls. for the previous week and a daily average of 290,929 bbls. for the four weeks ended August 23. Details follow:

	Bbls. of 42 gals.
At Atlantic Coast ports—	
Baltimore	231,000
New York	1,396,000
Philadelphia	116,000
Others	157,000
Total	1,900,000
Daily average	271,429
At Gulf Coast ports—	
Galveston district	193,000
New Orleans and Baton Rouge	96,000
Port Arthur and Sabine district	91,000
Tampa	39,000
Total	419,000
Daily average	59,857
At all United States ports—	
Total	2,319,000
Daily average	331,286
Daily average four weeks	290,929

Distribution of total imports is as follows:

Crude	1,043,000
Gasoline	472,000
Gas oil	17,000
Fuel oil	781,000

Petroleum Exports

There was some falling-off in volume of export movement of refined products from the local port during the week ended August 23, with indications for the next few weeks pointing to continued quiet in this branch of the market. There was but a moderate inquiry prevalent during the week, and it was believed that foreign buyers would adhere to a hand-to-mouth buying policy until the refined products price structure shows some definite signs of firming up.

The following table shows principal exports of refined petroleum products from New York for the past three weeks (all figures in gallons unless otherwise noted):

	Week ended		
	Aug. 23	Aug. 16	Aug. 9
Gasoline	480,000	470,000	725,000
Naphtha	.....	920,000	90,000
Kerosene	25,000	400,000	50,000
Fuel oil	48,000	20,000	145,000
Lubricating oil	950,000	2,130,000	1,867,000
Petroleum, refined	400,000	575,000	2,693,000
	Pounds		
Petrolatum	12,000	.....	.....
Paraffin wax	510,000	790,000	1,275,000
Refined	15,000	35,000	225,000
Scale	140,000	390,000	285,000
Lubricating grease	540,000	790,000	965,000

There has been a good movement of cased gasoline and kerosene into export channels during the past several weeks, demand for these products holding up well in the face of continued quiet in the market for bulk products. Refiners are not quoting an open market on cased products, but quote only on direct inquiry. The market for cased products, however, is following the price movements in bulk products. There is a more or less settled demand for cased goods, how-

ever, and the market does not show the periodical fluctuations in demand experienced by bulk products.

California Oil Receipts

Receipts of California crude and refined petroleum at Atlantic and Gulf Coast ports for the week ended August 23 totaled 494,000 bbls., a daily average of 70,571 bbls., compared with 399,000 bbls., a daily average of 57,000 bbls. for the previous week and a daily average of 90,357 bbls. for the four weeks ended August 23. Details follow:

	Bbls. of 42 gals.
At Atlantic Coast ports—	
Baltimore	151,000
Boston	190,000
New York	114,000
Others	39,000
Total	494,000
Daily average	70,571
At Gulf Coast ports—	
All ports	None
At Atlantic and Gulf Coast ports—	
Total	494,000
Daily average	70,571
Daily average four weeks	90,357

Distribution of total California receipts is as follows:

Gasoline	420,000
Gas oil	74,000

Shipments of refined products from the Pacific Coast for Atlantic and Gulf ports during the week (with identity of owner of tanker moving the oil where such owner of record is an oil company) were as follows:

To New York—80,000 bbls. of gasoline on the Birkenhead (Vacuum Oil Co.).

To Philadelphia—98,400 bbls. of gasoline on the Chester Sun (Sun Oil Co.).

To Everett, Mass.—68,000 bbls. of fuel oil on the Oregon.

To New Orleans—79,500 bbls. of gasoline on the S.C.T. Dodd (Standard Oil Co. of California).

LA.-ARK. FIELDS

(Continued from Page 54)

mented bottom on No. 1 Tidewell-Tull, half a mile northwest of their gasser in Section 11-13-14, after a show of gas with salt water at 3,004 feet, 46 feet less than the total depth of the gasser. Pelham & Bundy's No. 1 Rhodes, Section 32-13-14, near Grand Cane, 5 miles north of Mansfield, is waiting orders after a small show of oil at 2,892 feet. R. O. Roy's No. 1 Nelson in Section 36-15-13, on his Frierson block, 8 miles northeast of Holly production, is waiting orders after testing salt water at 2,700 feet.

The Arkansas Fuel Oil Co.'s No. 1 Lewis & Co., Section 26-20-4, Lincoln Parish, a few miles northeast of the Triangle Drilling Co.'s deep gas in the Sugar Creek area of Claiborne, plugged back to 4,256 feet after it had filled up 1,000 feet in salt water from a total depth of 4,292 feet. Three gas wells in Ouachita Parish and one in Morehouse were the Monroe gas field's contribution to the week's completions list. The Industrial Gas Co.'s No. 2 Fee, Section 3-20-4, Morehouse, gauged 3,816,000 feet at 825 pounds from 2,156 feet.

Carbons Consolidated's No. 5 Guthrie, Section 50-20-4, Ouachita Parish, was completed making 50,204,000 feet of gas at a total depth of 2,147 feet; Greenwood Production Co.'s No. 1 J. E. Morris, Section 36-19-3, made 2,700,000 feet at 1,000 pounds from 2,160 feet and Louisiana Gas & Fuel Co.'s No. 4 Breard in Section 43-18-4, was completed at 2,195 feet, making less than 1,000,000 feet of gas.

The Richland Parish field also had four completions; Northern Louisiana Natural Gas Co.'s No. 2 J. H. Hemler, Section 11-16-6, gauging 37,656,000 feet at 665 pounds from 2,450 feet; Southern Carbon Co.'s No. 1-B J. H. Hemler, Section 1-16-6, making 14,040,000 feet of gas from 2,450 feet; No. 5 F. B. & E. A. Sartor, Section 19-16-6, gauging 26,544,000 feet at 660 pounds from 2,440 feet, and No. 1 H. L. Thomason, Section 11-16-6, gauging 49,464,000 feet at 680 pounds from 2,440 feet.

Louisiana Gas & Fuel Co. will make a gas well in the original Monroe horizon after drilling No. 26 Crossett to 2,380 feet in search of second sand production. It tested 2,000,000 feet of gas with salt water at the deeper level, was plugged back to 2,369 feet and is milling out of 6-inch at 2,195 feet.

Loring Gets Dry Hole

Loring Oil Co.'s No. 8 Bowman-Hicks, Section 33-8-12, Zwolle district of Sabine Parish, a south offset to two dry holes, one of which was a small producer for a few days, was abandoned at 2,700 feet as a dry hole. A. H. Tarver is deepening No. 2 Sabine State Bank in the SW NW, Section 26-8-12, offsetting his big shallow producer on the west. Completed June 1 as a 45-bbl. pumper at 2,327 feet, it is drilling around 2,400 feet. The big producer, No. 3 on the same lease, was a 1,000-bbl. well, pinched in, at 2,426 feet.

J. P. Evans and others' No. 1 Crichton Co., Section 31-18-8, in the southern end of Webster Parish was dry on a drill stem test at 1,757 feet and got two fourbles of salt water on a second test in the Nacatoch at around 1,841 feet. Magnolia Petroleum Co. is swabbing No. 2 Sally Coyle, Section 2-22-11, Sarepta district in northern Webster which is estimated making 20 bbls. of oil and 100 bbls. of salt water from 2,712 feet. The Service Drilling & Royalties Co. is making a deep test of No. 1 Waller estate in Section 21-23-11, 4 miles northwest of Sarepta production, but in the vicinity of some old gas wells completed several years ago and about the same distance northeast of Carterville production.

Arkansas-Louisiana Pipe Line Co.'s No. 1 Cline in Section 16-10-24, Johnson County, Arkansas, proved to be one of the relatively few failures drilled so far in the Clarksville gas district, testing salt water at 3,431 feet. Red Bank Oil Co.'s No. 1 Edtin in Section 33-10-25, Franklin County, cemented 6⅝-inch at 3,759 feet to test a reported gas show of considerable volume at around 3,800 feet, the deepest level at which gas has been found in the Arkansas River Valley and which, should it develop commercially, will be the deepest production in the State.

Timberlake and others' No. 1 Tidwell in the J. Eskell Survey, just south of New Boston, the county seat of Bowie County, Texas, was reported running a drill stem test after a show of oil at 2,585-2,600 feet but results had not been heard from. The Texas Company's No. 10 Brumble, in the E. F. Mitcheson Survey of Panola County, was a small gas well at around 2,300 feet.

CALIFORNIA FIELDS

(Continued from Page 64)

Several rigs were destroyed and four lease tanks wrecked in the Cerritos section of the field early this week by a fire which started on J. E. O'Donnell's Dabney lease.

Rosecrans

The Union Oil Co. finished an unusually good well in the Rosecrans Field of Los Angeles when No. 14 Rosecrans was brought in flowing 1,475 bbls. of clean 33.9 gravity oil per day from 5,920 feet. This new well, an offset to the Barnsdall's No. 2 Trust, rotating ahead at 5,140 feet, has subsequently been pinched back to 750 bbls. per day. No. 13 Trust swabbed wet on a preliminary production test at 5,923 feet and has accordingly been recemented. Drilling operations in the Huntington Beach Field have shown a substantial increase during the past several weeks due to the starting of several new wells and redrilling jobs by the Standard, Superior and other operators. Three additional wells are being prepared for spud in this field at the present time and drilling should get under way shortly. These include the Standard's No. 33-A, Richfield's No. 3 Deiter-Golay and the Rex Oil Co.'s No. 16 Huntington. In the Inglewood Field, the Standard is starting two new wells, No. 64 on Los Angeles Investment Lease No. 1 and No. 25 on Vickers Lease No. 1, both being required by lease obligations.

The Texas Company recompleted No. 2-B Wickman in the Santa Fe Springs Field and this well was returned to production doing 115 bbls. of 32.8 gravity oil per day from 7,897 feet. A check covering production figures for the month of July, 1930, reveals the fact that two zones produced more than one-half of the total production registered by the Santa Fe Springs Field during this period. Of the 3,458,189 bbls. produced by Santa Fe Springs during July, the Hathaway and O'Connell zones contributed 1,240,435 bbls. and 1,075,606 bbls., respectively. The Meyer zone produced 415,606 bbls., the Buckbee zone 340,188 bbls., the Nordstrom zone 264,022 bbls., the Clarke zone 90,870 bbls., and the Bell zone 31,382 bbls. No production was derived from the Foix zone during the period in question as producing wells in this horizon were shut down in conformity with the curtailment agreement.

Midway-Sunset

The Republic Petroleum successfully completed its No. 38, a new well in the older section of the Midway-Sunset Field during the past week, and this new well was good for 360 bbls. of 21.6 gravity oil from 2,926 feet. Two other wells are nearing completion in this field at the present time, one of which, the Chanslor-Canfield Midway Oil Co.'s No. 87 in Section 8-32-23, should be tanking oil in the near future. In the Round Mountain Field of Kern County the Chanslor-Canfield Midway Oil Co. finished No. 1 Poso in Section 6-28-29, doing 275 bbls. of 16.1 gravity oil per day from 1,577 feet. This is the first completion of this company at Round Mountain but preparations are being made to start work on another hole on the same lease. The Shell failed to develop commercial production in its No. 1 Louis Olcese in Section 20-28-29 as the initial output, 50 bbls. per day from 1,691 feet, is cutting approximately 20 per cent.

Elwood Field

Operators in the Elwood Field of Santa Barbara County failed to ratify the proposed drilling restrictions although curtailment of production on the new basis in effect will accomplish the same result. If the production of this field is kept down to its allotted maximum production operators will consequently reduce drilling operations for the simple reason that it would be useless to drill new wells when they will not be permitted to produce. There are eight drilling projects under way in the Elwood Field at the present time, all of which were spudded in previous to the recent proposal to limit drilling operations. These wells will not be eligible for production until the output of the field drops below the allotted maximum. Current production at Elwood approximates 35,000 bbls. per day, approximately 6,000 bbls. below its allotment. Current production is substantially below the allotment because operators, in conformity with the curtailment agreement, are obliged to eliminate any excess production of one period by reducing production a comparable amount in the succeeding period. Field production will be in balance along about September 10, after which time the field production can be brought back up to the allotted maximum of 41,000 bbls. per day.

The General Petroleum has started construction work on its Ferguson pier which extends out into the open ocean at Rincon preparatory to spudding in its second tideland well, which would be designated as No. 3 Ferguson. This new pier, which will ultimately be connected up with the original Ferguson pier, will be approximately 600 feet long and will offset a similar drilling pier of the Richfield Oil Co. The Richfield Oil Co., incidentally, has two wells standing cemented in the Rincon Field at the present time. One of these, No. 3 Hobson State, is a tideland project located 600 feet out from the tide line. It is the present intention to conclude production tests on both projects shortly. The Valmont is making preparations to put its No. 1 Birdie Cline, a new well in the Santa Barbara Mesa area, on the beam and while a natural flow was not secured at 2,251 feet, it may prove commercially productive on the beam if the water trouble characteristic of this section can be solved. The Bolsa Chica's No. 1-A Snow in the Piru district of Ventura County will probably be a consistent 250-bbl. pumper if the company succeeds in finding a buyer for current production.

KANSAS FIELDS

(Continued from Page 52)

been abandoned at 3,539 feet. Miller & Brown and others' No. 1 Schwartz, SW cor. NW SW, Section 14-20-10, has been abandoned in lime 3,427-30 feet, total depth 3,432 feet.

Sedgwick County

Fisher and Lauck have rig on ground for their No. 1 Trustee, NW cor. NE SE, Section 19-27-2. Vickers Petroleum Co. and Hinkle have staked location for No. 4 Keys, NW cor. SW NE, Section 30-27-2. No. 5 Keys, SW cor. NE, Section 30-27-2, is a location. Blackwell Petroleum Co. and others have staked location for No. 1 Drollinger, NE cor. SW NE, Section 31-27-2. Cameron & Cameron and others have rig on ground for No. 1 Parks, NW cor. SW, Section 13-28-1. Derby Oil Co.'s No. 3 Gorham, NW cor. SW, Section 6-26-1, has been abandoned at 3,607 feet. Deal and others' No. 1 Johndro, NE cor. SW SE SW, Section 15-27-2, is an old well deepened and completed for 60 bbls. in Viola 3,215-17 feet. Producers & Refiners Corp.'s No. 2 Mackey, SE cor. NW SW, Section 30-27-2, is an old well drilled deeper and completed for 38 bbls. in sand 2,983 feet.

Sumner County

The Prairie Oil & Gas Co.'s No. 2 Conrad, CEL SE SE, Section 24-32-2, is a location. No. 1 Herrick, NE cor. SW NE, Section 15-35-2, has been completed for 300 bbls. in sand 3,443-58 feet, total depth 3,465 feet.

REFINERY PRICES MAY IMPROVE IN SEPTEMBER

(Continued from Page 136)

tained and generally the motorist has been provided with superior lubrication.

Vacuum Process Helps

Several of these brands owe a part of their good qualities to the use of the vacuum process which refines the oil with lower heat, preventing harm from burning of any portion of the oil. It is also claimed for these vacuum process lubs that they have much less carbon in them. The same claim is made for its products by the sponsors of the hydrogenation process. The demand for industrial lubricants has been quiet in this market. Bright stocks have worked their way down to a 21-cent basis for practically both the eastern and western bright stocks. Other refinery lub stocks are quiet as to demand and easy as to price.

At the close of last week just previous to the Labor Day holiday, the report was current in the trade, coming from Group 3, that the leading distributors in this territory had given the refiners notice to advance their prices to 6 cents for U. S. Motor Gasoline and intimating that if this were done the tank wagon price would not be disturbed. The report was made from several sources in the group and was given some credence here.

TRINIDAD OIL PRODUCTION

CHATHAM, Ontario, Aug. 30.—R. T. Young, Canadian trade commissioner at Port of Spain, Trinidad, writes that in 1929 for the first time on record Trinidad exceeded all other parts of the British empire in crude oil production. Trinidad produced 8,715,520 bbls. in 1929, or approximately 1,000,000 bbls. more than the previous year. In 1928 British Indian produced 8,300,000 bbls., as against Trinidad's 7,684,000 bbls., while in 1929 British India's production amounted to 8,286,000 bbls. In British India production is believed to have reached its peak, while in Trinidad it is steadily increasing, and it is fully expected that within a few years Trinidad's production will greatly exceed that of any other part of the empire.

FOUR WELLS IN MOROCCO

Four wells are being drilled in the region of Souk el Arba and one further south. While so far, oil in commercial quantities has not been found, sufficient oil is being obtained from two wells to run the machinery. The oil is stated to contain about 40 per cent of gasoline.

Manufacture of Natural Gasoline

Slight Decrease in Production of West Coast Area in July

One hundred forty natural gasoline plants in California, with a daily indicated capacity of 2,518,100,000 cubic feet, report a recovery of 68,476,718 gallons of natural gasoline from 49,825,986,000 cubic feet of gas treated in July. This is an increase of 752 bbls. in daily average production.

Utilization of natural gasoline amounted to 1,848,192 bbls., an increase over June of 131,500 bbls. Daily average utilization of 59,619 bbls. was 7,026 bbls. more than daily average production of 52,593 bbls.

Stocks of natural gasoline at the end of July amounted to 1,818,482 bbls., of which 42,611 bbls. were reported by natural gasoline plant operators and 1,775,871 bbls. by refinery operators. This is a decrease of 217,794 bbls. under June stocks. This stock figure of 1,818,482 bbls. is approximately 30½ day' supply at the current rate of consumption.

CALIFORNIA NATURAL GASOLINE PRODUCTION, DISTRIBUTION AND STOCKS, JULY, 1930

Production by Fields

	Gas treated (1,000 cu.ft.)	Nat. gas. produced (gallons)
Fullerton and Whittier	742,443	1,345,630
Midway	3,037,063	4,562,036
Huntington Beach	964,045	2,702,544
Long Beach	7,427,987	14,429,721
Richfield	758,994	882,577
Santa Fe Springs	12,317,327	16,143,960
Seal Beach	1,234,611	2,023,159
Ventura Avenue	4,834,383	5,017,157
All other fields	18,509,133	21,369,934
Total	49,825,986	68,476,718

Production by Methods

Type of plant—	Gas treated (1,000 cu.ft.)	Nat. gas. produced (gallons)
Oil absorption	40,432,341	55,104,510
Compressor	230,238	253,271
Combination comp. and oil absorp.	9,163,407	13,118,937
Total	49,825,986	68,476,718

Finished gasoline produced at plants, 20,729 bbls.

Distribution

	Barrels	
Stocks first of month	2,036,276	
Produced during month	1,630,398	
Quantity mixed with crude or unfinished oils	105,189	
Used in Blending at refineries	1,669,373	
Stocks end of month	1,818,482	
Balance*	73,630	
	3,666,674	3,666,674

*Includes evaporation losses, purchases by jobbers for blending, etc.

Stocks

	Gallons
Natural gasoline held by natural gasoline plant operators	1,789,680
Natural gasoline held by refineries	74,586,582
Total	76,376,262

OPERATE SECOND SIGNAL PLANT IN BIG LAKE AREA

The second natural gasoline plant of the Signal Oil & Gas Co. in the Big Lake Field of Texas has been operating for the past 10 days. The plant is taking the gas from the No. 2-B well of the Texon Oil & Land Co. The gas production is approximately 29,000,000 feet of gas daily from which 24,000 gallons of natural gasoline are obtained.

The No. 1 plant of the Signal Hill company continues to take the gas from the No. 1-B well of the Texon company. The output is approximately the same as from the No. 2 plant. Both wells are producing from sands below 8,000 feet. The No. 3-B well is being completed. The gas from this well will be divided between the two plants.

JULY PRODUCTION LESS THAN JUNE AND SAME MONTH OF PREVIOUS YEAR

The production of natural gasoline continued to decline in July when the daily average output amounted to 5,730,000 gallons as compared with 5,980,000 gallons in June. These figures represent the material decline of 250,000 gallons in daily output, or 100,000 gallons more than the decline that was reported for June. Production was also less than in July, 1929. The major portion of the decrease in natural gasoline production in July was recorded in Oklahoma.

Production in the majority of the states of minor importance fell off, but the output of California and Texas remained practically stationary. The heavy consumption of motor fuel during July was reflected in stocks of natural gasoline held at plants, which fell from 38,974,000 gallons on hand July 1 to 31,123,000 gallons on hand July 31. The latter figure compares with 48,543,000 gallons stored at the plants July 31, 1929.

The Oklahoma City Field has failed to meet original expectations from the standpoint of natural gasoline production but the lesser output from this field in July was the result of further curtailment of crude production operations rather than a depletion of gas supply. There is approximately 10 times as much plant capacity as now being used because of this proration agreement but the installations have been made for permanency and an increase in the Oklahoma City output may be expected at such time as the proration agreement is modified or discontinued.

The decrease in the volume of natural gasoline coming from the Oklahoma City Field has served as an important factor in bolstering natural gasoline prices in Oklahoma.

NATURAL GASOLINE OUTPUT IN JULY
(Thousands of gallons)

	Natural gasoline						Blended motor fuel July, 1930		
	Production				Stocks end of month				
	July, 1930	June, 1930	July, 1929	Jan.-July, 1930	July 1930	June 1930	Natural gasoline used	Naphtha or other oils used	Stocks end of month
Appalachian	5,000	6,000	5,900	55,700	3,272	4,861	83	129	240
Ill., Ky., etc.	700	800	900	7,600	486	626	...	1	8
Oklahoma	47,800	52,900	57,600	359,300	13,787	17,303	407	272	110
Oklahoma City	2,500	3,800	(*)	18,400	1,380	670	51	17	6
Osage County	6,300	6,100	6,600	44,200	5,225	4,913	11	3	4
Seminole, etc.	21,500	24,900	31,000	166,000	2,303	4,410	14	14	42
Rest of State	17,500	18,100	20,000	130,700	4,879	7,310	331	238	58
Kansas	2,400	2,700	2,500	19,300	1,242	1,518	3	2	8
Texas	40,500	38,600	33,200	275,500	8,944	11,014	213	427	101
Panhandle	20,500	18,800	13,500	139,300	4,148	4,841	65	125	18
North Texas	3,700	3,500	3,900	25,500	878	1,062	52	48	15
West Central	12,600	12,700	12,100	86,000	3,402	4,454	79	228	63
Rest of State	3,700	3,600	3,700	24,700	516	657	17	26	5
Louisiana	5,500	5,600	4,900	44,300	653	795	8	4	7
Arkansas	2,700	2,800	2,700	18,500	231	270	230	227	19
Rocky Mountain	4,600	4,600	4,000	29,700	690	763	...	...	...
California	68,500	65,300	73,800	478,800	1,818	1,824	...	...	...
Long Beach	14,400	13,500	20,500	100,600	...	...	...	...	...
Ventura Avenue	5,000	4,800	6,700	35,300	...	...	...	...	...
Seal Beach	2,000	2,000	3,900	17,600	...	...	...	...	...
Huntington Beach	2,700	2,600	3,500	20,200	...	...	...	...	...
Santa Fe Springs	16,200	15,500	22,700	129,000	...	...	...	...	...
Rest of State	28,200	26,900	16,500	176,100	...	...	...	...	...
Total	177,700	179,300	185,500	1,288,700	31,123	38,974	944	1,062	493
Daily average	5,730	5,980	6,000	6,080	...	...	30	34	...
Total (thousands of bbls.)	4,231	4,269	4,417	30,683	741	928	22	25	12
Daily average	137	142	142	145	...	...	...	...	...

*Included under "Rest of State."

Who's Who
IN NATURAL GASOLINE MANUFACTURE

GULF COMPANIES

The Gulf Oil Corp., through its various subsidiaries, is one of the large manufacturers of natural gasoline. The operations of the Gypsy Oil Co., a subsidiary, in Oklahoma and Kansas, were described in the March 27 issue.

In addition, the Gulf interests have several plants in Texas, Louisiana and Arkansas. In Texas, the plants are operated under the name of the Gulf Production Co., with headquarters in Fort Worth. The seven plants are scattered in several fields of the North Texas area. These plants have been in operation for several years and for that reason as a unit they are producing about one-third of their rated capacities. G. A. Poole is general superintendent of the plants.

The Gulf Refining Co. of Louisiana operates two plants in Louisiana and one in Arkansas. The output of these plants is relatively small. W. H. Vaughn is superintendent of the plants.

The several large refineries of the Gulf Refining Co. furnishes a ready outlet for the natural gasoline plants. Texas refineries are located at Sweetwater, Fort Worth and Port Arthur.

The following table gives the capacities and plant locations:

GULF PRODUCTION CO.
(Plants in Texas)

Location—	Daily capacity gallons
Burkburnett	4,365
Electra	1,782
8 miles south of Breckenridge	11,760
Ellasville	4,900
3 miles north of Breckenridge	12,000
3 miles west of Eastland	11,800
1 mile north of Ranger	8,700

GULF REFINING CO.

Mooringsport, La.	3,000
Homer, La.	2,500
El Dorado, Ark.	1,500

Accounting Committee Develops Tentative Casinghead Form

The Natural Gasoline Association of America has submitted a tentative form of casinghead gas accounting to all of its members and to approximately 40 other companies for criticism, with the hopes of adopting a final form which will simplify and standardize this work.

A wide variation in the methods of gas accounting has existed in the purchase of wet gas and in the sale of residue gas. An accounting committee, acting as a subcommittee of the gas contracts committee, has developed this tentative form and has also outlined what in their minds constitute the minimum amount of information to go on the meter charts which serve as the basis of the accounting information. This committee is composed of R. D. Turner of the Skelly Oil Co. as chairman, S. J. Fraser of the Prairie Oil & Gas Co., G. L. Pitcher of The Texas Company, C. V. Johnson of the Phillips Petroleum Co. and B. J. Yaseck of the Empire Oil & Refining Co.

In using the form, the following information will be tabulated in the heading: Name of producer, lease, location of lease and the plant, station or meter number and the month for which the form is used. In the body of the form there is room for a column of dates with an adjoining column for tabulation of the M. cubic feet of gas. At the base of these columns there is room to total the month's purchases with the notation that the form may be retained for state and federal tax reference. Space is also provided in the body of the form for tabulating the basis of settlement and for remarks.

In submitting the tentative form for consideration, Ray Miller, secretary of the association, made the following request regarding the tabulation of data on the meter chart:

"Before making a final recommendation on this subject, the committee would like to have suggestions and criticisms from the industry at large, and as a basis for such suggestions and criticisms, offers the following list of items as a minimum:

"1. Name of buyer or company operating meter.

"2. Name of seller.

"3. Motor serial number.

"4. Exact time chart was placed on meter and taken off meter, as well as the day of the month.

"5. Size of line and orifice plate.

"6. Well number of each well feeding through meter.

"7. The coefficient and chart calculations should be placed on back of each chart.

"8. Remarks.

"Will you please study this list and indicate by letter any additions, deletions, or alterations which you feel would serve the industry to a better advantage. The committee will compile all information submitted and then make a final recommendation to the industry on this subject."

EXPAND COMPRESSED GAS SALES

The Pacific Lighting Corp. of San Francisco, Calif., through a subsidiary, the Santa Maria Gas Co., will shortly expand its distribution of compressed gas. The subsidiary company has made application to distribute the compressed gas in the community of Morro Bay, San Luis Obispo County, California.

It was officially announced that operating subsidiaries of the company would continue to make installations of this type in communities not at present on pipe lines and where cost of extensions is not justified by potential revenues.

Brief Items for Petroleum Refiners

DOCKET APPEAL IN PATENT CLUB CASE

An appeal has been docketed in the Supreme Court of the United States by refining companies, defendant in the "patent club case," asking for a reversal of the decision rendered in the Illinois courts where it was declared that the pooling of patents by these companies constituted a restraint of trade and a violation of the Sherman act.

The appeals were filed by counsel for the Standard Oil companies of Indiana and New Jersey, The Texas Company, the Gasoline Products Co. and 24 other oil companies. The case is docketed under the title of Standard Oil Co. of Indiana and others v. United States, No. 378.

Error Is Claimed

The assignments of error, filed with the record of the case, declare that the specially constituted lower court erred in decreeing that the various agreements cross-licensing and sublicensing patents constituted a monopoly in violation of the antitrust laws.

The court, while admitting that a patent was a monopoly in itself, improperly interpreted the law, it is claimed, in holding that the cross-licensing agreements created a monopolistic pool, invalid in so far as it transgressed the prohibition of the Sherman act, as the court concluded has been done.

The Government's petition charged an unlawful combination and conspiracy to monopolize interstate commerce in cracked gasoline through certain agreements which dealt with the right to use patented processes and apparatus. The primary defendants, it was alleged, executed so-called cross-license agreements, and the secondary defendants thereafter took sublicenses from one or the other of the primary defendants.

Attorney Charles Martindale, of Indianapolis, Ind., was appointed special master in chancery to hear the evidence and to make finding of fact and conclusions of law. After a full hearing, it is stated, he found for the defendant oil companies, to which report the Government excepted, and the court upheld these exceptions.

LOUISIANA REFINING CITIES SERVICE DEAL

NEW YORK, Sept. 2.—Cities Service Co. is reported negotiating for the purchase of Louisiana Oil Refining Co., an independent producing, refining and marketing company. The Louisiana company, with total assets in the neighborhood of $25,000,000, has production aggregating 12,500 bbls. daily in Arkansas, Louisiana, Texas and Oklahoma and an 18,000-bbl. refinery at Shreveport. The company has an extensive marketing system in Alabama, Tennessee, Arkansas and Mississippi, operating more than 800 retail stations and a number of bulk plants. Tires and automobile accessories are also sold at the retail stations.

The Louisiana company has become more active in natural gas operations during the past few years and is currently selling about 20,000,000 cubic feet daily from its Arkansas production alone. While proposed deal with Cities Service is still in initial stages, it is reported that plan calls for exchange of Cities Service stock for Louisiana oil securities in addition to a cash payment.

MOHAWK BUILDS PLANT

LOS ANGELES, Calif., Sept. 2.—The Mohawk Petroleum Co. is building a 4,000-bbl. skimming plant one-half mile east of the Venice Field. The company also plans to distribute its products through its own stations which it will purchase or build.

PURE TO SERVE GREAT LAKES WITH 6,000-BBL. REFINERY AT TOLEDO

The Pure Oil Co. will start construction immediately on its seventh refinery, to be located at Toledo, Ohio, according to an announcement from the Chicago headquarters of the company.

The new plant which will be located along the Toledo harbor will have an initial capacity sufficient to refine 6,000 bbls. of crude oil daily. Units of Gyro vapor phase cracking process which was developed by the Pure Oil Co. at its other refineries will be installed at the Toledo plant. The cracking process furnishes the premium grades of gasoline sold by the Pure company.

The Toledo plant is the first to be built by the Pure company on the Great Lakes. The company's other refineries are located at Ardmore, Okla.; Muskogee, Okla.; Marcus Hook, Pa.; Smiths Bluff, Tex.; Heath, Ohio, and Cabin Creek, W. Va. The combined crude oil capacity of their operating refineries is 84,500 bbls. daily.

The new plant will be located to permit transportation by water of both crude oil and refined products. The crude will be brought to the refinery from the Mount Pleasant Field of Michigan. A pipe line connecting the field to a water terminal has been completed. The Pure company and affiliated interests have considerable distribution in the Great Lakes area and this will be expanded to take care of the refinery output. The refinery will represent an investment of approximately $2,500,000.

The Pure refinery will be the fifth to be located in Toledo. Operating plants are owned by the Standard Oil Co. of Ohio, Craig Oil Co., Sun Oil Co. and the Paragon Refining Co. The latter was recently purchased by the Gulf Oil Corp. and is now being enlarged and improved.

CHILE TO BUILD REFINERIES

SANTIAGO, Calif., Aug. 29.—A bill will be introduced in the next meeting of the Chilean congress to appropriate money with which to build and buy oil refineries. Approximately $17,066,000 worth of petroleum products are imported into the country and it is with the hope of decreasing the cost to the consumer that the country proposes to establish its own plants.

The bill provides that the government shall buy crude oil in California and Peru to the value of about 24,000,000 pesos a year and refine it in Chile. It is considered that 100,000,000 pesos would cover the cost of the program, with 60,000,000 for the purchase of installations now owned by foreign companies and for building others, and 40,000,000 for operating capital.

SUNRAY ADDS TO PLANT

The Sunray Oil Co. will add a 3,500-bbl. crude unit to its Allen, Okla., refinery which will increase the capacity of the plant to 6,000 bbls. The refinery was operated as the Homaokla Oil Co. until recently when the Sunray acquired the property. The company will run its own crude which is produced locally and a higher schedule of runs will be inaugurated as soon as the new construction work is completed. The unit to be added is being supplied by the Southwestern Engineering Corp.

TO BUILD LARGE FUEL STORAGE

CHICAGO, Aug. 30.—The North Shore Petroleum Co., which has large storage at 5937 Rogers Ave., in the North Shore district, is about to extend its operations to the southern part of the city. The North Shore Petroleum Co. has bought a tract of land at Eighty-ninth Place and South State Street, containing 30,000 square feet. On this tract it has begun the erection of storage tanks. The tract is served by the Rock Island Railroad tracks, which are also used at that point by the Baltimore & Ohio and by the Pere Marquette Railroads.

ORGANIZE VICTORY COMPANY

CHICAGO, Sept. 2.—The Victory Petroleum Co. has been organized and has opened sales offices in the Mather Tower, this city. It is headed by Harry McCormick, a well-known marketer, and will act as the sales representative of a number of Texas and Oklahoma refiners.

SHELL MAY BUILD PLANT AT BUENOS AIRES PORT

NEW YORK, Sept. 1.—Diadema Petroleum Co., a subsidiary of the Royal Dutch-Shell combine, has been authorized to construct and operate a petroleum refinery in the Dock Sud Zone of the port of Buenos Aires, according to reports from London.

Negotiations for a permit to establish the refinery have been under way for two years, and much of the material required for initial construction was on the ground, permitting immediate activity as soon as authorization was received from the Argentine government.

Diadema Petroleum Co., or Cia. Petroleo Diadema S. A., as it is known in Argentina, is a producing company with production in the Commodoro Rivadavia area. While details regarding the new refinery are not yet available, it is reported that it will be a large modern unit, and that in addition to running on Argentina crude, the new refinery will import and refine crude petroleum. Shell-Mex Oil Co. of Argentina is the transportation and marketing company for Diadema.

NEW TYPE COKE LOADER

HOUSTON, Tex., Aug. 30.—Magnolia Petroleum Co. is building a new tipple for loading coke at its docks at its Beaumont, Texas, refinery. The tipple represents a new type of construction, eliminating the use of a chute and substituting an additional conveyor belt. This will prevent much breakage of the larger pieces.

ORDER GERMAN TANKERS

The Standard Shipping Co. and the Deutschamericanishche Petroleum Co., a subsidiary of the Standard Oil Co. of New Jersey, have placed orders for six tankers with German shipbuilders. The tankers are to cost approximately 30,000,000 marks.

F. TILLOTSON WITH SINCLAIR

CHICAGO, Aug. 30.—Frank Tillotson, formerly with the Union Petroleum Co., and later in charge of retail distribution in the Chicago territory for the Shell Petroleum Corp., but who has not been active in the industry for some time owing to poor health, is now connected with the Sinclair Refining Co.

HOUSTON COMPANY STARTS OPERATING SMALL PLANT

HOUSTON, Tex., Sept. 1.—Houston Oil Co. is expected to let contract in the near future for the construction of a refinery at Violet, near Corpus Christi. No definite plans for the plant have been made known. In the meantime, the company has set up a small shell unit on the site and is running between 200 and 300 bbls. of crude daily to supply the company's local demand for gasoline.

The new plant will be operated on Pettus and Refugio crude. For several weeks the company has been buying Pettus crude and this, with the company's own production at Refugio, is being moved to Violet by tank car. Two 55,000-bbl. tanks already have been completed at Violet as a nucleus for a large tank farm, which is expected to contain 10 tanks when completed.

Houston Oil Co., through its subsidiary the Houston Pipe Line Co., has been contemplating converting its gas line, which extends from White Point, near Corpus Christi, to Refugio, into an oil line. By a short extension to the Violet tank farm this would provide pipe line connections for the refinery.

The Violet plant is in charge of William Hounsell, who has been associated with the company as a chemist for some time. The plant is intended to supply the increasing number of service stations and jobbing business which the company is establishing throughout southwest Texas and the Gulf Coast.

MID-KANSAS TEMPORARILY SHUTS DOWN REFINERIES

The three refineries of the Mid-Kansas Oil & Gas Co. recently acquired through the merger of the Ohio Oil and the Transcontinental Oil Co. located in Oklahoma and Texas were shut down temporarily September 1 for repairs. The Mid-Kansas company, which is a subsidiary of the Ohio company, took over the operation of the refineries in August.

It is expected that the plant at Fort Worth, Tex., will resume operations within a few days with the plants at Bristow, Okla., and Boynton, Okla., to be closed down for longer periods. The company has sufficient storage to take care of customers. Improvements and additions are to be made at all refineries.

CLEANS UNIT IN 8½ HOURS

T. A. Pomeroy, superintendent of the cracking units for the Texas Pacific Coal & Oil Co. at Wynnewood, Okla., has called attention to the item carried in The Oil and Gas Journal August 21 which said the time of 9½ hours for cleaning a Dubbs cracking chamber was claimed as a record by the Wilcox Oil & Gas Co. at Bristow, Okla. Mr. Pomeroy says his men have made more than 10 clean-outs during July, each with a duration of less than 10 hours and on July 26 completed a clean-out in 8½ hours. This includes cleaning the chambers, five rows of furnace tubes and toggling the vapor and transfer lines.

RELEASE TAX MONEY

SPRINGFIELD, Ill., Aug. 31.—The last four test cases involving the unconstitutional gasoline tax law of 1927 have been dismissed thereby releasing to the state highway department and the 132 counties of the State, $6,195,750 for road-building purposes, according to the director of the department of finance, Garrett DeF. Kinney.

The four suits in question were those brought by the Shaffer Oil Co., the Sinclair Refining Co., The Texas Company, and the Mid-Continent Petroleum Co.

These facilities mean FINE WORK—FAST DELIVERY

THE Limbert pipe bending shop, with abundant capacity, makes prompt delivery certain. But more than mere bigness, this unusual plant incorporates the most highly developed methods for accurate quality work. The equipment and methods used here are the result of a full third of a century of pipe fabricating experience.

In this shop your most difficult job will be handled skillfully and promptly. The experienced engineers who design the material, and the mechanics who man the shop, know exactly what they are doing. Limbert facilities include the most modern specialized equipment for every phase of pipe and fitting fabrication in steel, iron, or welded construction. Every type of high pressure, high temperature pipe joint can be produced promptly.

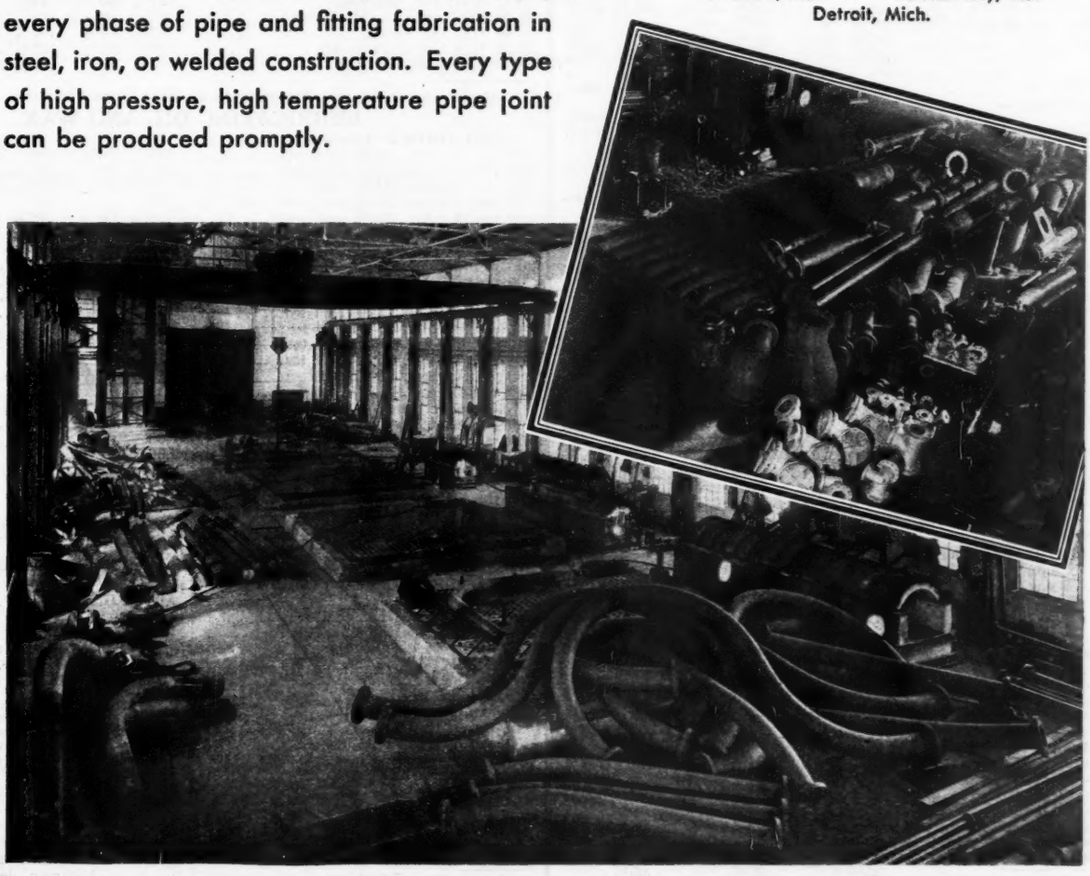
LIMBERT PIPING

GEO. B. LIMBERT & CO.

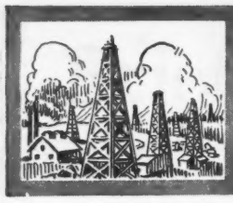
560 Fulton St., Chicago, Ill.

St. Louis, Mo. Kansas City, Mo.

Detroit, Mich.



OGJ 9-4 Gray



REFINERY AND CRUDE PRICES

Quotations on refined products are for interstate or export movement unless otherwise noted.

GASOLINE AND NAPHTHA

OKLAHOMA (Group 3)—	Sept. 2		Aug. 26		Aug. 19	
50-52 450 endpoint	.06	.06¼	.06	.06¼	.06	.06¼
56-58 450 endpoint	.05¾	.06	.05¾	.06	.05¾	.06
*58-60 437 endpoint (U. S. Motor)	.0625		.063		.0643	
*60-62 437 endpoint	†.06	.06¼	†.05¾	.06	†.06	.06¼
*60-62 400 endpoint	.06875		.0688		.0712	
*64-66 375 endpoint	.06¾	.07	†.06½	.07	†.06¾	.07
68-70 360 endpoint	.07	.07¼	.07	.07¼	.07	.07¼
64-66 437 endpoint (blend)	.05½	.06	.05½	.06	.05½	.06
NORTH TEXAS—						
50-52 450 endpoint	.05⅝	.05¾	.05⅝	.05¾	.05¾	
58-60 450 endpoint	.05½	.05¾	.05½	.05¾	.05½	.05¾
58-60 437 endpoint (U. S. Motor)	.05½	.06	.05½	.06	.05½	.06
60-62 400 endpoint	.06	.06¼	.05¾	.06	.05⅞	.06⅛
64-66 390 endpoint	.06¼	.06½	.06⅛	.06½	.06¼	.06½
64-66 375 endpoint	.06½	.06¾	.06⅜	.06¾	.06½	.06¾
68-70 360 endpoint	.06¾	.07¼	.06¾	.07⅛	.06⅞	.07⅛
64-66 437 endpoint (blend)	.05½	.06	.05½	.06	.05½	.06
***NORTH LOUISIANA—**						
58-60 437 endpoint (U. S. Motor)	.06¾	.07	.06¾	.07	.06¾	.07
***ARKANSAS—**						
58-60 437 endpoint (U. S. Motor)	.06¾	.07	.06¾	.07	.06¾	.07
PENNSYLVANIA—						
52-54 Naphtha	.06¾		.06¾		.06¾	
54-56 Naphtha	.06¾	.07	.07		.07	
58-60 Gasoline	.07	.07¼	.07¼	.07½	.07¼	.07½
60 Gasoline	.07¼	.07½	.07½	.07¾	.07½	.07¾
62 Gasoline	.08		.08		.08	
64 Gasoline	.08		.08		.08	.08½
68-70 350 endpoint gasoline	.08¾		.08¾		.08¾	
CALIFORNIA—						
†58-60 437 endpoint (U. S. Motor) domestic	.08½	.09¼	.09	.09½	.09	.09½
†60-62 400 endpoint domestic gasoline	.09¾	.10¼	.09¾	.10¼	.09¾	.10¼
CHICAGO DISTRICT (Based on Group 3)—						
50-52 450 endpoint (Naphtha)	.05½	.05¾	.05½	.05¾	.05½	.05¾
56-58 450 endpoint	.05½		.05¼	.05½	.05¾	.06
58-60 437 endpoint (U. S. Motor)	.05⅝	.06	.05⅜	.06	.05¾	.06⅛
60-62 400 endpoint	.05¾	.06⅛	.05¾	.06⅛	.05⅞	.06⅜
64-66 375 endpoint	.06½	.06¾	.06½	.06⅞	.06⅝	.06⅞
68-70 360 endpoint	.07	.07¼	.07	.07¼	.06⅞	.07⅛
64-66 437 endpoint (blend)	.05½	.06	.05½	.06	.05½	.06
GULF COAST (Export)—						
58-60 U. S. Motor	.07	.07½	.07	.07½	.07	.07½
60-62 400 endpoint	.08	.08½	.08	.08½	.08	.08½
61-63 390 endpoint	.08½	.09	.08½	.09	.08½	.09
64-66 375 endpoint	.09	.09½	.09	.09½	.09	.09½

*Weighted average prices September 1, August 25 and 18 as reported by representative refiners. Sales to jobbers only. †No sales reported. Prices show general market.

*Louisiana, Arkansas, Mississippi and East Texas delivery. †For local consumption.

NATURAL GASOLINE

OKLAHOMA (Group 3)—	Sept. 2		Aug. 26		Aug. 19	
Grade A, 72-79.9, 375 e.p., rec. 90%	.05½		.05½		.05½	
Grade AA, 80-87.9, 375 e.p., rec. 90%	.05½		.05½		.05½	
Grade B, 76-83.9, 375 e.p., rec. 85%	.05½		.05½		.05½	
Grade BB, 84-92, 375 e.p., rec. 85%	.05½		.05½		.05½	
Grade C, 80-92, 375 e.p., rec. 78%	.05½		.05½		.05⅝	.05½
NORTH TEXAS—						
Grade A, 72-79.9, 375 e.p., rec. 90%	.05½		.05½		.05½	
Grade AA, 80-87.9, 375 e.p., rec. 90%	.05½		.05½		.05½	
Grade B, 76-83.9, 375 e.p., rec. 85%	.05½		.05½		.05½	
Grade BB, 84-92, 375 e.p., rec. 85%	.05½		.05½		.05½	
Grade C, 80-92, 375 e.p., rec. 78%	.05½		.05½		.05½	
NORTH LOUISIANA—						
Grade AA, 80-87, 375 e.p., rec. 90%	.05⅝	.05¾	.05⅝	.05¾	.05½	.05⅝
Grade BB, 84-92, 375 e.p., rec. 85%	.05⅝		.05⅝		.05½	
Grade C, 80-92, 375 e.p., rec. 78%	.05⅝		.05⅝		.05½	
CALIFORNIA—						
75-78, 375-390 endpoint	.07	.07½	.07½	.08	.07¼	.08
CHICAGO DISTRICT (Based on Group 3)—						
Grade A, 72-79.9, 375 e.p., rec. 90%	.05½		.50½		.05½	
Grade AA, 80-87.9, 375 e.p., rec. 90%	.05½		.05½		.05½	
Grade BB, 84-92, 375 e.p., rec. 85%	.05½		.05½		.05½	

*Louisiana, Arkansas, Mississippi and East Texas delivery.

BURNING OIL

OKLAHOMA (Group 3)—	Sept. 2		Aug. 26		Aug. 19	
41-43 water white kerosene	.03⅛	.03½	.03	.03½	.03	.03½
42-44 water white kerosene	.03½	.03¾	.03½	.03¾	.03½	.03¾
NORTH TEXAS—						
41-43 water white kerosene	.03	.03¼	.03	.03¼	.03	.03¼
40-41 water white kerosene	.02⅞	.03	.02⅞	.03	.02⅞	.03
***NORTH LOUISIANA—**						
41-43 water white kerosene	.04	.04¼	.04	.04¼	.04	.04¼
***ARKANSAS—**						
41-43 water white kerosene	.04	.04¼	.04	.04¼	.04	.04¼
PENNSYLVANIA—						
43 Kerosene prime white	.04½		.04¼		.04¼	
45 Kerosene water white	.05		.04⅝	.04¾	.04½	
46 Kerosene water white	.05	.05¼	.05	.05¼	.04¾	.05
300 Mineral Seal	.05½		.05½		.05½	
CALIFORNIA—						
38-40 Water white Kero. (high burning test)	.04¾	.05¼	.04½	.05	.04½	.05
CHICAGO DISTRICT (Based on Group 3)—						
41-43 water white kerosene	.03	.03¼	.03	.03¼	.03	.03¼
42-44 water white kerosene	.03¼	.03½	.03½	.03¾	.03½	.03¾
GULF COAST (Export)—						
41-43 prime white	.06		.06		.06	
41-43 water white	.07		.07		.07	

*Louisiana, Arkansas, Mississippi and East Texas delivery.

FUEL OIL

OKLAHOMA (Group 3)—	Sept. 2		Aug. 26		Aug. 19	
Below 18 Fuel Oil, per bbl.	.45	.50	.45	.50	.45	.50
18-22 Fuel Oil, per bbl.	.47½	.50	.47½	.50	.47½	.50
20-22 Fuel Oil, per bbl.	.50	.57½	.50	.57½	.50	.57½
22-26 Fuel Oil, per bbl.	.55	.60	.55	.60	.55	.60
24-26 Fuel Oil, per bbl.	.60	.65	.60	.65	.60	.65
26-30 Fuel Oil, per bbl.	.67½	.72½	.67½	.72½	.70	.75
28-30 Fuel Oil, per bbl.	.75	.80	.75	.80	.77½	.82½
32-36 Gas Oil (industrial)	.02⅛	.02¼	.02⅛	.02¼	.02⅛	.02¼
32-36 Gas Oil (straw color)	.02¼	.02½	.02¼	.02½	.02¼	.02½
36-38 Distillate	.02⅝	.02¾	.02⅝	.02¾	.02⅝	.02¾
38-40 Straw Distillate	.02¾	.03	.02¾	.03	.02¾	.03
NORTH TEXAS—						
Below 20 Fuel Oil, per bbl.	.40	.50	.40	.50	.40	.50
24-26 Fuel Oil, per bbl.	.60	.65	.60	.65	.60	.65
32-36 Gas Oil (industrial)	.02	.02⅛	.02	.02⅛	.02	.02⅛
38-40 Straw Distillate	.02¾	.03	.02¾	.03	.02¾	.03
***NORTH LOUISIANA—**						
18-20 Fuel Oil, per bbl.	.75	.80	.75	.80	.75	.80
30-32 Gas Oil	.02⅜	.02¾	.02⅜	.02¾	.02⅜	.02¾
***ARKANSAS—**						
33-36 Distillate	.02¾	.03	.02¾	.03	.02¾	.03
30-32 Gas Oil	.02⅜	.02½	.02⅜	.02½	.02⅜	.02½
16-22 Refinery Fuel Oil, per bbl.	.60	.70	.60	.70	.60	.70
GULF COAST (South Texas)—						
Gas Oil	.03¾	.04	.03¾	.04	.03¾	.04
Bunker C Fuel (cargo lots), per bbl.	.75	.80	.75	.80	.75	.80
Bunker C. Fuel (small lots)	1.05	1.10	1.05	1.10	1.05	1.10
PENNSYLVANIA—						
30-34 Fuel Oil	.03⅝		.03¼		.03¼	
36-40 Fuel Oil	.04		.03¾		.03¼	.03¾
CALIFORNIA—						
33-36 Distillate	.02¼	.02½	.02¼	.02½	.02¼	.02½
26-32 Distillate	.01¾	.02	.01¾	.02	.01¾	.02
15-20 Fuel Oil, Bunker (at tidewater)	.65	.75	.65	.75	.65	.75
15-20 Fuel Oil (cargo lots), per bbl.	.60	.70	.60	.70	.60	.70
27 plus Diesel, per bbl.	.80	.90	.80	.90	.80	.90
CHICAGO DISTRICT (Based on Group 3)—						
22-26 Fuel Oil, per bbl.	.55	.60	.55	.60	.55	.60
18-22 Fuel Oil, per bbl.	.42½	.50	.42½	.50	.47½	.50
28-30 Fuel Oil, per bbl. (zero)	.75	.80	.75	.80	.75	.80
32-36 Gas Oil (zero)	.02⅜	.02¾	.02⅜	.02⅝	.02⅜	.02⅝
32-36 Gas Oil (industrial)	.02⅛	.02¼	.02⅛	.02⅜	.02⅛	.02⅜
38-40 Straw Distillate	.02¾	.03	.02⅝	.02⅞	.02⅝	.02⅞

*Louisiana, Arkansas, Mississippi and East Texas delivery.

LUBRICATING OIL AND WAX

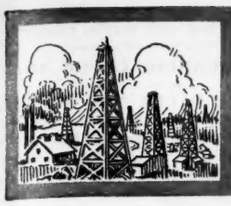
OKLAHOMA (Group 3)—	Sept. 2		Aug. 26		Aug. 19	
100 vis., 2 color, 20-25 cold test	.06	.06½	.06	.06½	.06	.06½
100 vis., 3 color, 20-25 cold test	.05½	.06	.05½	.06	.05½	.06
150 vis., 3 color, 20-25 cold test	.07¼	.07½	.07¼	.07½	.07¼	.07½
150 vis., 4 color, 20-25 cold test	.07		.07		.07	
180 vis., 3 color, 23-28 cold test	.08½	.09	.08½	.09	.08½	.09
180 vis., 4 color, 23-28 cold test	.08¼	.08½	.08¼	.08½	.08¼	.08½
180 vis., 5 color, 23-28 cold test	.08		.08		.08	
200 vis., 3 color, 23-28 cold test	.10	.10½	.10	.10½	.10	.10½
200 vis., 4 color, 23-28 cold test	.09½	.10	.09½	.10	.09½	.10
200 vis., 5 color, 23-28 cold test	.09¼	.09½	.09¼	.09½	.09¼	.09½
240 vis., 3 color, 25-30 cold test	.13½	.14	.13½	.14	.13½	.14
240 vis., 4 color, 25-30 cold test	.12½	.13	.12½	.13	.12½	.13
240 vis., 5 color, 25-30 cold test	.11½	.12	.11½	.12	.11½	.12
280 vis., 3 color, 25-30 cold test	.15½	.16	.15½	.16	.15½	.16
280 vis., 4 color, 25-30 cold test	.14½	.15	.14½	.15	.14½	.15
280 vis., 5 color, 25-30 cold test	.13½	.14	.13½	.14	.13½	.14
Cylinder Stocks:						
600, steam refined, light green	.08	.12	.08	.12	.08	.12
600, steam refined, dark green	.06	.08	.06	.08	.06	.08
190-200 vis., D color, Bright Stock	.30		.30		.30	
150-160 vis., D color, Bright Stock	.25		.25		.25	
*150-160 vis., D color, Bright Stock	.22	.24	.23	.25	.23	.25
150-160 vis., E color, Bright Stock	.23		.23		.23	
Waxes:						
124-126 White Crude Scale Wax	.01¾	.02	.02	.02⅛	.02	.02⅛

*High cold test. All bright stock prices are for domestic movement.

PENNSYLVANIA—						
34 Neutral	.05¾	.07	.05¾	.07	.05¾	.07
34 Sundebloom	.05½		.05½		.05½	
36 Miners' Neutral	.05¾		.05¾		.05¾	
150, 3 color	.11½	.13½	.12	.14	.12	.14
180, 3 color	.16	.17	.16	.17	.16	.17
200, 3 color	.18	.19½	.18½	.20	.18½	.20
220, 3 color	.23		.23		.23	
600, steam refined	.11½	.12	.11	.11¾	.11	.11½
635, steam refined	.15	.17	.13½	.17	.13½	.17
650, steam refined	.15½	.17	.15½	.17	.15½	.17
600, Pennsylvania Flash	.18	.19½	.18	.19½	.18	.19½
630, Pennsylvania Flash	.26	.28	.26	.28	.26	.28
600, E filtered	.15½	.17	.15½	.17	.15½	.17
600, D filtered	.19	.21	.19	.21	.19	.21
Pennsylvania Bright Stocks	.25		.25		.25	
*122-124 White Crude Scale Wax	.02¼		.02¼		.02¼	
124-126 White Crude Scale Wax	.02¼		.02¼		.02¼	

*At New York.

GULF COAST (South Texas)—						
100 vis., 2-2½ color, pale oil	.06½	.06¾	.06½	.06¾	.06½	.06¾
200 vis., 3 color, pale oil	.09½		.09½		.09½	
300 vis., 3 color, pale oil	.10¾		.10¾		.10¾	
500 vis., 3½ color, pale oil	.12	.12¾	.12	.12¾	.12	.12¾
750 vis., 3½ color, pale oil	.13½		.13½		.13½	
1,200 vis., 3½ color, pale oil	.16		.16		.16	
2,000 vis., 6 plus color, red oil	.17		.17		.17	
200 vis., 5-6 color, red oil	.08¾	.09	.08¾	.09	.08¾	.09



REFINERY AND CRUDE PRICES

Quotations on refined products are for interstate or export movement unless otherwise noted.

300 vis., 5-6 color, red oil	.10	.10¼	.10	.10¼	.10	.10¼
500 vis., 5-6 color, red oil	.11¼		.11¼		.11¼	
750 vis., 5-6 color, red oil	.12¾	.13	.12¾	.13	.12¾	.13
1,200 vis., 5-6 color, red oil	.15		.15		.15	
2,000 vis., 4 color, pale oil	.17		.17		.17	
200 vis., 2½ color, filtered oil	.11	.12	.11	.12	.11	.12
300 vis., 2½ color, filtered oil	.12	.13	.12	.13	.12	.13
CALIFORNIA—						
130 vis., 2½-3 color	.09	.09¼	.10¼	.10½	.10¼	.10½
200 vis., 2½-3 color	.10	.10½	.11½	.11¾	.11½	.11¾
300 vis., 3-3½ color	.10½	.10¾	.13	.13½	.13	.13½
350 vis., 3½-4 color	.11	.11¼	.13½	.13¾	.13½	.13¾
400 vis., 3½-4 color	.12	.12½	.15	.15½	.15	.15½
Red Neutral:						
200 vis., 4½-5 color	.10	.10¼	.11	.11¼	.11	.11¼
300 vis., 5-6 color	.10½	.10¾	.12	.12¼	.12	.12¼
400 vis., 5-6 color	.12	.12¼	.13¼	.14	.13¼	.14
500 vis., 4½-5 color	.13	.13¼	.15¼	.15½	.15¼	.15½
500 vis., 5-6½ color	.13	.13¼	.15	.15¼	.15	.15¼
600 vis., 6½ plus color	.13	.13¾	.16	.16¼	.16	.16¼

Note—Bright stocks are not manufactured commercially on the Pacific Coast.

NEW YORK (BAYONNE) REFINERY PRICES

	Sept. 2		Aug. 26		Aug. 19	
Gasoline, U. S. Motor, 58-60, 437 e.p.	.08	.10	.08	.10	.08	.10
Kerosene, water white, 41-43	.06¾		.06¾		.06¾	
*Fuel Oil, Bunker "C," 41-43	1.15		1.15		1.15	
Fuel Oil, Diesel, 28-30, per bbl.	2.00		2.00		2.00	
Gas Oil, 32-36 gravity	.04¾	.05¼	.04¾	.05¼	.04¾	.05¼
25 pale Paraffin Oil, tank car	.10¼		.10¼		.10¼	
28 pale Paraffin Oil, tank car	.07¼		.07¼		.07¼	
280 red Paraffin Oil, tank car	.12½		.12½		.12½	
250 red Paraffin Oil, tank car	.11½		.11½		.11½	
225 red Paraffin Oil, tank car	.10		.10		.10	
200 red Paraffin Oil, tank car	.09¼		.09¼		.09¼	
Refined Wax:						
120-122 a.m.p., per lb.	.03		.03		.03	
125-127 a.m.p., per lb.	.03⅜		.03⅜		.03⅜	
130-132 a.m.p., per lb.	.03⅝		.03⅝		.03⅝	
133-135 a.m.p., per lb.	.04½		.04½		.04½	
135-137 a.m.p., per lb.	.04¾		.04⅝		.04⅝	
Petrolatum in barrels, in carload lots, per pound:						
Dark Green	.01¾		.01¾		.01¾	
Amber	.03¼		.03¼		.03¼	
Extra Amber	.03⅜		.03⅜		.03⅜	
Cream	.06		.06		.06	
Lily White	.06⅝		.06⅝		.06⅜	
Snow White	.08		.08		.08	

*Lighterage 5.0 cents a barrel extra.

NEW YORK (BAYONNE) EXPORT PRICES

	Sept. 2		Aug. 26		Aug. 19	
600, steam refined cylinder stocks, in bbls.	.17		.17½		.17½	
635, steam refined	.19		.19½		.19½	
650, steam refined	.23		.23½		.23½	
600, Pennsylvania Flash	.28		.28		.28	
630, Pennsylvania Flash	.31		.31		.31	
600, Warren E	.24		.25		.25	
600, Oil City E	.23		.24		.24	
Light 140-150 Bright Stocks	.32	.33	.32	.33	.32	.33
Dark 140-150 Bright Stocks	.30	.31	.30	.31	.30	.31

LOS ANGELES EXPORT PRICES

	Sept. 2		Aug. 26		Aug. 19	
Kerosene, water white	.03¾	.04½	.03¾	.04½	.03¾	.04½
*U. S. Motor Gasoline, 53-55, 437 e.p.	.06½	.06¾	.06½	.06¾	.06½	.06¾
*60-62 400 endpoint gasoline	.08½	.09	.08½	.09	.08½	.09

*Prices on coastwise shipments.

CRUDE OIL PRICES

OKLAHOMA, KANSAS, NORTH AND EAST CENTRAL TEXAS

Oklahoma City—Same as other Mid-Continent price schedule except Empire Pipe Line Co. posted all oil 40 gravity and above at $1.43 on April 10.

Corsicana heavy (April 10, 1930).....$ .80

Other fields .....See gravity table

TEXAS PANHANDLE

Gray County, Wheeler County and Carson-Hutchinson Counties—See gravity table.

In Noel-McConnell district, Prairie Oil & Gas Co. posted April 10, below 30 degrees, 75½ cents, with 5-cent differential upward to 34-34.9, $1.00½, and then a 3-cent differential upward to 44 and above at $1.35½.

WEST TEXAS

Iatan*.....Same as North Texas

Crane-Upton-Crockett, Pecos, Winkler, Mitchell and Ector.....

.....See gravity table, Column 3

Howard and Glasscock.....

.....See gravity table, Column 9

Chalk† (April 10, 1930).....$ .75

*Includes Westbrook Field. †Posted by Humble Oil & Refining Co.

ARKANSAS-NORTH LOUISIANA

Smackover, below 24 gravity (April 11, 1930).....$ .90

Smackover, 24 gravity and above (April 11, 1930) 1.05

Carterville, Sarepta and Cotton Valley, below 36 gravity (April 11, 1930).... .85

Bellevue (April 11, 1930)..... 1.15

Urania (April 11, 1930) ..... .95

East El Dorado (April 11, 1930)..... .90

Other fields.....See gravity table

Cotton Valley crude above 36 gravity takes same gravity price schedule as shown for North Louisiana and Arkansas crude in Mid-Continent gravity price table.

Note—Smackover, Cotton Valley and Bellevue posted by Standard Oil Co. Louisiana and Magnolia Petroleum Co.; Urania posted by Louisiana Oil Refining Corp.; East El Dorado posted by Magnolia Petroleum Co.

Grade A (April 10, 1930)*.....$1.15

Grade B, 25 degrees and upward.....

.....See gravity table

Jennings, La. (April 10, 1930)†..... 1.10

Refugio (light).....Same as Grade B

Refugio (heavy) (April 10, 1930)‖..... .85

Sorrento (April 10, 1930)‡..... 1.10

Markham (April 10, 1930)§..... .85

High Island (April 10, 1930)¶..... .95

*Humble Oil & Refining Co. †Gulf Pipe Line Co. ‡Sun Pipe Line Co. §Texas Pipe Line Co. ¶Posted by Gulf Pipe Line Co. ‖Humble Oil & Refining Co. and Gulf Coast Pipe Line Co.

ROCKY MOUNTAIN STATES

Ohio Oil Co.-Midwest Refining Co.

(Effective April 11, 1930)

Iles (Feb. 15, 1930).....$ .87

33 gravity and above..... .87

Under 33 gravity..... .65

Dutton Creek (Feb. 15, 1930)..... 1.25

Rock Creek, Wyo. 1.35

(Continued on Page 144)

CRUDE OIL GRAVITY TABLE

Gravity—	1 Okla.-Kans.	2 N. C. Texas No. La., Arkansas	3 Crane, Upton, Ector, Crockett, Winkler, Pecos, Mitchell, (West Texas) Lea, N. Mex.	4 Wheeler County (Texas Panhandle)	5 Gray County (Texas Panhandle)	6 Carson and Hutchinson (Texas Panhandle)	7 Salt Creek, Wyo.	8 Stephens, Ark.	9 Howard-Glasscock (West Texas)	10 Grade B Gulf Coast and Refugio Texas
Below 25	.75	.72	.65	....	....	....	..	..	.65	1.00
25 to 25.9	.80	.77	.68	....	....	....	....	....	.68	1.03
26 to 26.9	.85	.82	.71	....	....	....	....	....	.71	1.06
27 to 27.9	.90	.87	.74	....	....	....	....	.76	.74	1.09
28 to 28.9	.95	.92	.77	....	.75½		....	.81	.76	1.12
29 to 29.9	1.00	.97	.80	.75½	.80½		1.00	.86	.78	1.15
30 to 30.9	1.05	1.02	.83	.80½	.85½	....	1.05	.91	.80	1.18
31 to 31.9	1.10	1.07	.86	.85½	.90½	.77½	1.10	.96	.82	1.21
32 to 32.9	1.15	1.12	.89	.90½	.95½	.82½	1.15	1 01	.84	1.24
33 to 33.9	1.18½	1.17	.92	.95½	1.00½	.87½	1.18½	..	.86	1.27
34 to 34.9	1.22	1.22	.95	1.00½	1.05½	.92½	1.22	....	.88	1.30
35 to 35.9	1.25½	1.25½	.98	1.04	1.09	.96	1.25½	....	.90	1.33
36 to 36.9	1.29	1.29	1.01	1.07½	1.12½	.99½	1.29	....	.92	1.36
37 to 37.9	1.32½	1.32½	....	1.11	1.16	1.03	1.32½	....	..	1.39
38 to 38.9	1.36	1.36	....	1.14½	1.19½	1.06½	....	....	....	1.42
39 to 39.9	1.39½	1.39½	....	1.18	1.23	1.10	....	....	....	1.44
40 to 40.9	1.43	1.43	....	1.21½	1.26½	1.13½	....	....	....	1.46
41 to 41.9	1.46½	1.46½	....	1.25	1.30	1.17	....	....	....	1.48
42 to 42.9	1.50	1.50	....	1.28½	1.33½	1.20½	....	....	....	1.50
43 to 43.9	1.53½	1.53½	....	1.32	1.37	1.24	....	....	....	1.52
44 and above	1.57	1.57	....	1.35½	1.40½	1.27½	....	....	....	1.54

Column 1, Note—Above prices posted April 10, 1930, by Carter Oil Co. (beginning at 25° and below), and by the Prairie Oil & Gas Co. and other purchasers beginning at 24° and below, the Magnolia Petroleum alone excepted. The Magnolia on April 10 posted the following prices: Below 26 gravity, 70 cents; 26-26.9, 76 cents; 27-27.9, 82 cents; 28-28.9, 88 cents; 29-29.9, 95 cents; 30-30.9, $1.02. From 31 and up and including 44° and above Magnolia followed Carter price schedule, but made its whole schedule apply to its gravity purchases in Kansas, Oklahoma and North Central Texas alike.

Column 2—Humble Oil & Refining Co. posted above prices April 10, 1930, and was followed by all other companies in Texas except Magnolia which posted a different price schedule than Humble up to 33.9° (See note in paragraph just above). The Texas Company posted North Louisiana and Arkansas on April 10, and Standard of Louisiana posted on April 11, followed by other companies, but Magnolia's price schedule begins with below 28 gravity at 87 cents. North Central Texas includes North Texas, Ranger, Mexia, Powell, Richland, Wortham, Lytton Springs, Currie, Nocona, Moran and Corsicana light. Arkansas and Louisiana pools include Caddo, Bull Bayou, Crichton, Cotton Valley (above 36 gravity), DeSoto, Haynesville, Homer, El Dorado and Rainbow.

Column 3—Posted by Humble Oil & Refining Co. April 10, 1930, and Magnolia Petroleum Co., April 10, 1930.

Columns 4, 5 and 6—Humble Oil & Refining Co., Prairie Oil & Gas Co., Magnolia Petroleum Co., April 10, 1930.

Column 7—Midwest Refining Co., April 11. All crude over 37 gravity $1.32½

Column 8—Louisiana Oil & Refining Co., April 11.

Column 10—Humble Oil & Refining Co., April 10. Magnolia Petroleum Co. posted below 25 gravity, 65 cents, with 3-cent differential upward to and including 36 and above, which was posted at $1.01.

CALIFORNIA CRUDE OIL PRICES

Standard Oil Co.-Union Oil Co. (Effective March 11, 1930)

Gravity—	1 Seal Beach, Salt Lake, Newport, Summerland, Lawndale, Los Angeles, Fullerton, Richfield, Torrance, Olinda-Brea, Alamitos Heights, Huntington Beach, Signal Hill, Inglewood	2 Whittier, La Habra, Coyote Hills	3 Midway-Sunset, Elk Hills, Lost Hills, Belridge, Buena Vista Hills	4 Montebello	5 Santa Fe Springs (June 14, 1930)	6 Santa Maria, Coalinga	7 Wheeler Ridge, Fruitvale	8 Orcutt, Ventura, Rincon	9 Ventura Avenue (Nov. 8)	10 Elwood Terrace	Athens, Rosecrans, Dominguez
14 to 14.9	.70	.70	.55	.70	....	.55	.55	.55	.70	..	...
15 to 15.9	.70	.70	.55	.70	....	.55	.55	.55	.70	..	..
16 to 16.9	.70	.70	.55	.70	....	.55	.55	.55	.70	..	..
17 to 17.9	.70	.70	.55	.70	....	.55	.55	.55	.70	..	..
18 to 18.9	.76	.76	.62	.71	....	.62	.62	.65	.76	....	..
19 to 19.9	.82	.82	.70	.77	....	.70	.70	.70	.82	....	..
20 to 20.9	.88	.87	.78	.83	....	.78	.78	.78	.88	....	..
21 to 21.9	.94	.93	.86	.90	.92	.86	.86	.90	.91	....	..
22 to 22.9	1.00	.98	.94	.97	.95	.94	.94	.95	.94	....	..
23 to 23.9	1.07	....	1.02	1.05	1.01	1.02	1.02	1 02	1.00	....	....
24 to 24.9	1.14	....	1.09	1.11	1.07	1.07	1.07	1.10	1.07	....	1.14
25 to 25.9	1.21	....	1.16	1.17	1.13	1.12	1.12	1.18	1.14	....	1.19
26 to 26.9	1.28	....	1.23	1.23	1.19	1.17	1.17	1.26	1.21	....	1.24
27 to 27.9	1.35	....	1.30	1.29	1.25	1.23	1.22	....	1.28	....	1.29
28 to 28.9	1.42	....	1.35	1.35	1.31	1.27	....	....	1.35	....	1.34
29 to 29.9	1.46	....	1.41	1.38	1.37	1.31	....	....	1.39	....	1.39
30 to 30.9	1.50	....	1.47	1.41	1.43	1.35	....	....	1.43	....	1.45
31 to 31.9	1.55	....	1.53	....	1.49	1.39	....	....	1.48	..	1 51
32 to 32.9	1.60	....	1.59	....	1.55	1.43	....	....	1.53	....	1.57
33 to 33.9	1.65	....	1.65	....	1.60	1.47	....	....	1.59	....	1.64
34 to 34.9	1.70	....	....	....	1.65	1.51	....	....	1.65	1 32	1.71
35 to 35.9	1.75	....	....	....	1.70	1.55	....	....	1.71	1.39	1.78
36 to 36.9	1.80	....	....	....	1.75	....	....	....	....	1.46	1.84
37 to 37.9	1.85	....	....	....	1.80	....	....	....	....	1.53	1.90
38 to 38.9	1.90	....	....	....	1.85	....	....	....	....	1.60	1.96
39 to 39.9	....	....	....	....	1.90	....	....	....	....	1.66	2.02
40 to 40.9	....	....	....	....	....	....	....	....	....	1.72	2.08
41 to 41.9	....	....	....	....	....	....	....	....	....	1.78	2.14
42 to 42.9	....	....	....	....	....	....	....	....	....	1 84	2.20

Kern River, Newhall-McKittrick, Mount Poso and Round Mountain, 11 to 13.9 gravity, 50 cents; 14 gravity and above 55 cents, effective March 11. On March 11, the Union Oil Co. posted Midway-Sunset, Elk Hills, Buena Vista, Lost Hills and Coalinga crude as follows: 11 to 13.9 gravity at 50 cents.

Column 1—Signal Hill, Seal Beach, Huntington Beach and Alamitos Heights crude, 14 to 32.9 gravity, inclusive; Richfield, Olinda-Brea and Fullerton, 14 to 30.9 gravity; Torrance and Inglewood, 14 to 28.9 gravity.

Column 2—Whittier crude, 14 to 22.9 gravity; Coyote Hills, 14 to 30.9 gravity.

Column 3—Kern River, Newhall and McKittrick, 11 to 19.9 gravity; Midway-Sunset, Buena Vista and Elk Hills, 11 to 33.9 gravity; Lost Hills, 11 to 34.9 gravity; oil below 14 gravity posted at 50 cents.

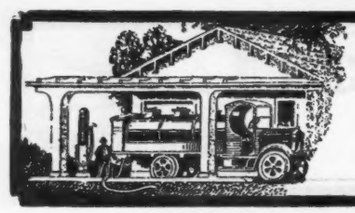
Column 5—Price change posted by Standard of California, June 14.

Column 6—Oil below 14 gravity posted at 45 cents.

Columns 8 and 9—Posted by Union Oil Co. only.

Column 10—Standard posted price f.o.b. tanker.

Kettleman Hills, 55 gravity and above, $1.65 (posted by Standard Oil Co. of California).



TANK WAGON MARKETS

Tank wagon quotations for gasoline and kerosene in United States as furnished by the larger marketing concerns Sept. 1

ALL TANK WAGON AND SERVICE STATION QUOTATIONS INCLUDE TAXES

STANDARD OIL CO. (INDIANA)

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax of	tank wagon
Chicago†	18.0	19.0	3.0	13.0
Decatur, Ill.	18.2	19.2	3.0	13.1
E. St. Louis	17.4	18.4	3.0	12.2
Joliet	18.4	19.4	3.0	13.3
Peoria	18.2	19.2	3.0	13.1
Quincy	18.2	19.2	3.0	12.9
Davenport, Ia.	18.5	19.5	3.0	13.3
Des Moines	18.5	19.5	3.0	13.3
Keokuk	18.5	19.5	3.0	13.3
Sioux City	18.1	19.1	3.0	12.9
Duluth, Minn.	19.5	20.5	3.0	13.9
Mankato	19.1	15.0	3.0	13.7
Minneapolis	19.2	20.2	3.0	13.9
LaCrosse, Wis.	18.2	19.2	3.0	14.0
Milwaukee	17.1	18.1	2.0	12.9
Madison	17.3	18.3	2.0	13.1
Detroit, Mich.	18.8	19.8	3.0	14.7
Grand Rapids	18.7	19.7	3.0	14.6
Saginaw	18.9	19.9	3.0	14.8
Evansville, Ind.	19.0	20.0	4.0	14.0
Fort Wayne	19.4	20.4	4.0	14.4
Indianapolis	19.2	20.2	4.0	14.2
South Bend	19.4	20.4	4.0	14.4
Fargo, N. D.	20.9	21.9	3.0	15.9
Huron, S. D.	20.3	17.5	4.0	14.7
Sioux Falls	19.1	20.1	4.0	14.4
K. C., Mo.*	17.9	18.9	3.0	11.6
Springfield*	17.8	18.8	3.0	12.5
St. Louis*	16.9	17.9	2.5	12.3
St. Joseph	17.5	18.5	2.0	12.2
Wichita, Kans.	16.8	14.8	3.0	11.8
Bartlesville, Ok.	17.5	20.5	4.0	11.5

*State tax 2 cents; remainder city tax.

†Effective June 3, discounts on Q.D.A. in Chicago district 4 cents off service station price on purchases of 500 gallons or more per month and 5 cents on purchases of 1,000 gallons or more per month.

Effective August 5, the following quantity discounts from the service station prices are allowed on monthly sales of gasoline: 500 gallons or more, 3 cents; 75,000 gallons or more, 4½ cents. Discounts are allowed each month and they are not cumulative. Delivery tickets showing date and quantity delivered must be sent to the seller before the tenth of the month to secure the discount on the previous month's purchases.

ROCKY MOUNTAIN DISTRICT

Continental Oil Co.

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax of	tank wagon
Denver, Colo.	16.0	19.0	4.0	15.5
Pueblo	17.0	20.0	4.0	15.5
Grand Junction	21.5	24.5	4.0	19.0
Casper, Wyo.	19.0	22.0	4.0	14.0
Cheyenne	20.5	23.5	4.0	15.5
Butte, Mont.	24.5	22.0	5.0	20.0
Billings	24.5	27.5	5.0	18.5
Great Falls	24.5	27.5	5.0	20.0
Helena	24.5	27.5	5.0	20.0
Salt Lake, Utah	20.0	23.0	3.5	17.0
Albu'que, N. M.	14.0	18.0	5.0	15.0
Boise, Idaho	23.5	26.5	5.0	19.0
Twin Falls	23.5	27.5	5.0	19.0

CENTRAL SOUTH DISTRICT

Standard Oil Co. (Louisiana)

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax of	tank wagon
N. Orleans, La.*	14.5	14.5	5.0	12.0
Baton Rouge	15.5	16.0	4.0	14.0
Alexandria†	17.5	18.0	5.0	13.0
Lafayette*	17.5	18.0	5.0	13.0
Lake Charles*	17.5	18.0	5.0	13.0
Shreveport	15.5	17.5	4.0	13.0
Knoxv'le, Tenn.	19.5	20.0	5.0	15.0
Memphis	17.0	17.0	5.0	12.5
Chattanooga	19.5	20.0	5.0	13.0
Nashville	17.0	17.0	5.0	15.0
Bristol	19.5	21.5	5.0	14.0
Lt. Rock, Ark.	17.0	17.0	5.0	13.0

*Includes city tax of 1 cent. Louisiana kerosene prices include 1-cent state tax. New Orleans kerosene price also includes 1-cent city tax.

†Gasoline price at Alexandria includes 1-cent tax in parish of Rapides.

SOUTHWESTERN DISTRICT

Magnolia Petroleum Co.

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax of	tank wagon
Dallas, Tex.	14.0	18.0	4.0	12.0
Fort Worth	14.0	17.0	4.0	11.0
Houston	15.0	19.0	4.0	11.0
San Antonio	13.0	17.0	4.0	11.0
El Paso	16.0	20.0	4.0	13.0
Texarkana	14.0	15.0	4.0	12.0
Muskogee*	16.0	19.0	4.0	9.0
Okla. City*	15.0	18.0	4.0	10.0
Tulsa*	16.0	20.0	4.0	10.0
Ft. Smith, Ark.	14.0	15.0	5.0	12.0
Little Rock	17.0	17.0	5.0	13.0

*Gasoline tank wagon price to dealers 2 cents under posted tank wagon.

PENNSYLVANIA—DELAWARE AND PART NEW ENGLAND

The Atlantic Refining Co.

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax of	tank wagon
Pittsburgh, Pa.	16.0	*21.0	...	13.0
Philadelphia	16.0	*21.0	...	13.0
Scranton	16.0	*21.0	...	13.0
Allentown	16.0	*21.0	...	13.0
Altoona	16.0	*21.0	...	13.0
Erie	15.0	*19.0	...	13.0
Dover, Del.	19.0	21.0	3.0	13.0
Wilmington	19.0	21.0	3.0	13.0
Springf'd, Mass.	17.5	19.5	2.0	12.5
Worcester	17.3	19.3	2.0	12.3
Boston	16.5	18.5	2.0	11.5
Providence, R.I.	16.7	18.7	2.0	11.7
Hartford, Conn.	17.5	19.5	2.0	12.5
New Haven	17.6	19.6	2.0	12.6

*Includes tax of 3 cents. Pennsylvania tax is collected by the dealer and paid by him direct to the State. The Atlantic Refining Co. recognizes a 2-cent per gallon discount on gasoline from its posted tank wagon markets on sales to dealers for purposes of resale. The Atlantic Refining Co. also recognizes a maximum discount of 2 cents per gallon on gasoline to commercial accounts under contract for one year.

PACIFIC COAST TERRITORY

Standard Oil Co. (California)

	Gasoline			Kero.
	Wholesale price	Retail price	Incl'ds tax of	tank wagon
Fresno	19.0	17.0	3.0	17.0
San Francisco	19.0	12.0	3.0	15.5
Los Angeles	18.5	16.5	3.0	15.5
Reno, Nev.	24.0	22.0	4.0	19.0
Portland, Ore.	20.5	18.5	4.0	16.5
Seattle, Wash.	19.5	12.5	3.0	16.5
Tacoma	19.5	17.5	3.0	16.5
Spokane	21.5	21.5	3.0	20.5
Phoenix, Ariz.	17.0	20.0	4.0	20.0

Above prices are at company's plant or depots as company does not operate stations. A 6-cent per gallon discount is given dealers and customers taking tank wagon lots except in Phoenix where the discount is 1 cent.

NEBRASKA

Standard Oil Co. (Nebraska)

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax of	tank wagon
Omaha	19.25	19.25	4.0	13.25
McCook	20.75	22.75	4.0	14.75
Norfolk	19.75	21.75	4.0	13.75
N. Platte	20.75	22.75	4.0	14.50
Scottsbluff	17.00	17.00	4.0	14.25

OHIO

Standard Oil Co. (Ohio)

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax of	tank wagon
Ohio points*	20.0	21.0	4.0	†14.0

*Dealers and commercial accounts 2 cents under tank wagon.

†Service station price 16 cents.

NEW YORK AND PART OF NEW ENGLAND DISTRICT

Standard Oil Co. (New York)

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax of	tank wagon
Albany, N. Y.	17.6	19.6	2.0	15.6
New York*	16.3	18.3	2.0	14.3
Buffalo	17.8	19.8	2.0	14.8
Rochester	18.0	20.0	2.0	14.0
Syracuse	18.8	20.8	2.0	14.8
Boston, Mass.	16.5	18.5	2.0	13.5
Augusta, Me.	19.8	21.8	4.0	14.8
Manch't'r, N. H.	19.4	21.4	4.0	14.0
Burlington, Vt.	19.6	21.6	4.0	15.3

*Prices in steel barrels.

STANOLIND FURNACE OIL IN CHICAGO

Less than 100 gallons	9.0
100 to 349 gallons	8.0
350 gallons or more	7.5

Note—Outside Chicago furnace oil discount of 1 cent per gallon is given on deliveries of 100 to 349 gallons and 1½ cents on deliveries of 350 gallons or more.

NAPHTHA

	Tank wagon	Tank car
Oleum spirits	14.7	10.0
V. M. & P. naphtha	16.7	12.0
Cleaner's naphtha	17.0	14.9
Stanisol	17.0	15.4

Tank wagon prices f.o.b. Chicago; tank car prices f.o.b. Whiting.

ATLANTIC COAST DISTRICT

Standard Oil Co. (New Jersey)

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax of	tank wagon
Atlantic City	16.5	18.5	2.0	13.5
Newark, N. J.	15.5	17.5	2.0	12.5
Annapolis	18.0	20.0	4.0	13.0
Baltimore	17.2	19.2	4.0	10.5
Cumberland	19.0	21.0	4.0	14.0
Wash'gton, D.C.	15.7	17.7	2.0	12.7
Danville, Va.	19.8	21.8	5.0	13.8
Norfolk	18.3	20.3	5.0	11.0
Petersburg	19.3	21.3	5.0	13.3
Roanoke	19.0	20.0	5.0	14.0
Richmond	18.7	20.7	5.0	12.7
Charles'n, W.Va.	18.5	20.5	4.0	12.5
Keyser	19.1	21.1	4.0	14.1
Parkersburg	17.2	19.2	4.0	11.2
Wheeling	18.4	20.4	4.0	12.4
Charlotte, N. C.	20.3	22.3	5.0	14.3
Hickory	20.6	22.6	5.0	14.6
Mt. Airy	20.5	22.5	5.0	14.5
Salisbury	20.5	22.5	5.0	14.5
Charleston, S.C.	19.3	21.3	6.0	12.3
Columbia	21.2	23.2	6.0	14.2

A 2-cent per gallon discount off the gasoline tank wagon price is offered to dealers.

SOUTHERN DISTRICT

Standard Oil Co. (Kentucky)

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax of	tank wagon
Atlanta, Ga.	19.0	21.0	6.0	14.5
Augusta	22.0	24.0	6.0	15.5
Macon	20.0	22.0	6.0	13.0
Savannah	20.0	22.0	6.0	14.0
Birm'ham, Ala.	16.0	18.0	5.0	14.5
Mobile	18.0	18.0	4.0	13.5
Montgomery	19.0	21.0	4.0	15.0
Clarks'le, Miss.	19.0	21.0	5.0	12.5
Jackson	17.0	19.0	5.0	13.0
Natchez	19.0	21.0	5.0	13.0
Gulfport	20.5	22.5	5.0	13.0
Vicksburg	19.0	21.0	5.0	13.0
Jack'ville, Fla.	19.0	21.0	6.0	14.0
Miami	21.0	23.0	6.0	14.0
Pensacola	19.0	19.0	6.0	13.5
Tampa	20.0	20.0	5.0	13.0
Lexington, Ky.	19.0	20.0	5.0	14.5
Covington	20.0	22.0	5.0	14.5
Louisville	18.0	20.0	5.0	13.0
Ashland	18.0	20.0	5.0	15.0
Catlettsburg	18.0	20.0	5.0	15.0

In addition to the state tax of 4 cents on gasoline, Montgomery has city tax of 1 cent on gasoline and one-half on kerosene. Kerosene prices in Georgia include 1-cent tax. In Florida, an inspection fee of 0.125 cent; in Alabama, an inspection fee of one-half cent on kerosene and one-fourth cent on gasoline. To Pensacola, Birmingham and Mobile state taxes add 1-cent levy tax. To Gulfport state tax add privilege tax of 2 cents.

Effective April 2, price to dealers 2 cents under posted tank wagon price.

TANK WAGON CHANGES

Standard Oil Co. of Kentucky reduced the gasoline station price 2 cents in Tampa, Fla., to 20 cents August 13.

Standard Oil Co. of Louisiana reduced the gasoline tank wagon price 1½ cents and the station price 2 cents to 17 cents each in Nashville, Tenn., August 16.

Standard Oil Co. of New Jersey advanced the gasoline station prices 2 cents in Charlotte and Salisbury, N. C.

Standard Oil Co. of Indiana reduced the gasoline station prices in Mankato, Minn., to 15 cents and in Huron, S. Dak., to 17.5 cents on August 28.

H. F. SINCLAIR'S VIEWS

Regarding the world oil situation, H. F. Sinclair, interviewed in Paris, said:

"It is evident that substantial progress has been made and that the situation has improved. However, restriction measures must be maintained. The trend toward consolidation in the petroleum industry which becomes increasingly evident constitutes one of the main safeguards of a reasonable exploitation of the industry in the future.

"However, while the United States is the leading producer at present, it must not be supposed that it enjoys any kind of monopoly. South America, Rumania and many other countries are also important factors. In addition, Russia constitutes an unknown quantity which must be watched with careful attention."

STOP RUNNING CRUDE OIL

WICHITA FALLS, Tex., Aug. 30.—Until market conditions improve the American Refining Properties has stopped running crude oil at its local refinery. The company intends to continue the operation of its cracking stills.

CRUDE OIL PRICES

(Continued from Page 143)

Salt Creek	See gravity table
Big Muddy	1.38
Grass Creek, heavy (July 27, 1928)	.90
Grass Creek, light	1.55
Mule Creek (May 21, 1929)	1.20
Elk Basin	1.55
Lance Creek	1.63
Poison Spider (March 14, 1927)	1.00
Notches (March 14, 1927)	.65
Rex Lake (February 23)	1.10
Osage	1.63
Lost Soldier (contract, May 22)	1.00
Hamilton Dome (March 14, 1927)	.85
Greybull (April 11, 1930)	1.55
Four Bear (May 31, 1929)	.35
Cat Creek	1.55
Pondera (Montana) (April 10, 1930)	1.55
Sunburst (Montana) (Feb. 15, 1930)	1.65
Hogback (Feb. 15, 1930)	1.40
Artesia (New Mexico)	1.05
Lea County	See gravity table

Note—Salt Creek, Osage, Cat Creek, Greybull and Hogback posted by Midwest Refining Co., and the remainder by the Ohio Oil Co. Both companies posted Grass Creek light and Elk Basin.

SOUTH CENTRAL AND SOUTHWEST TEXAS

Darst Creek (April 10, 1930)*	$1.15
Luling (April 10, 1930)	.85
Mirando (April 10, 1930)†	.85
Pettus (Aug. 21, 1930)§	1.15
Salt Flat (April 10, 1930)§	1.15
Thrall‡	
Lytton Springs (Lockhart). See gravity table	
Somerset (April 10, 1930):	
Below 33 gravity	$1.15
33 to 33.9 gravity	1.17
34 to 34.9 gravity	1.19
35 to 35.9 gravity	1.21
36 to 36.9 gravity	1.23
37 to 37.9 gravity	1.25
38 gravity and above	1.27

*Posted by Humble Oil & Refining Co. and Magnolia Petroleum Co. †Magnolia Petroleum Co., Humble Oil & Refining Co., Crown Central Pipe Line Co. ‡Thrall prices same as North Central Texas less 19½ cents per cwt. freight. §Humble Oil & Refining Co.

EASTERN STATES

Joseph Seep Purchasing Agency

(Effective August 22, 1930)

Seep Purchasing Agency withdrew from Bradford and Allegany Fields as a purchaser on May 16.

Penna Grade Oil in National Transit Lines (Pennsylvania)	$2.20
Penna Grade Oil in Southwest Pennsylvania Lines (Pennsylvania)	2.25
Penna Grade Oil in Eureka Pipe Line Lines (West Virginia)	2.15
Penna Grade Oil in Buckeye Pipe Line Lines (Ohio) (July 11, 1930)	1.75
Corning Grade Oil in Buckeye Pipe Line Co.'s Lines (Aug. 1, 1930)	1.50
Somerset Oil in Eureka Pipe Line Lines (Kentucky) (Aug. 1, 1930)	1.15
Ragland Grade Oil in Cumberland Pipe Lines (Kentucky) (Aug. 1, 1930)	1.30
Wayne District Oil in Cumberland Pipe Lines (April 11, 1930)	1.35
Tide Water Pipe Co.	
Bradford district (Aug. 22)	2.50
Allegany district (Aug. 22)	2.50
Pure Oil Co.	
Cabin Creek, W. Va. (Aug. 22)	2.40
Kelly Creek, W. Va. (Aug. 22)	2.25
Bradford Hollow, W. Va. (Aug. 22)	2.25

MIDDLE WESTERN STATES

Ohio Oil Co.

(Effective April 11, 1930)

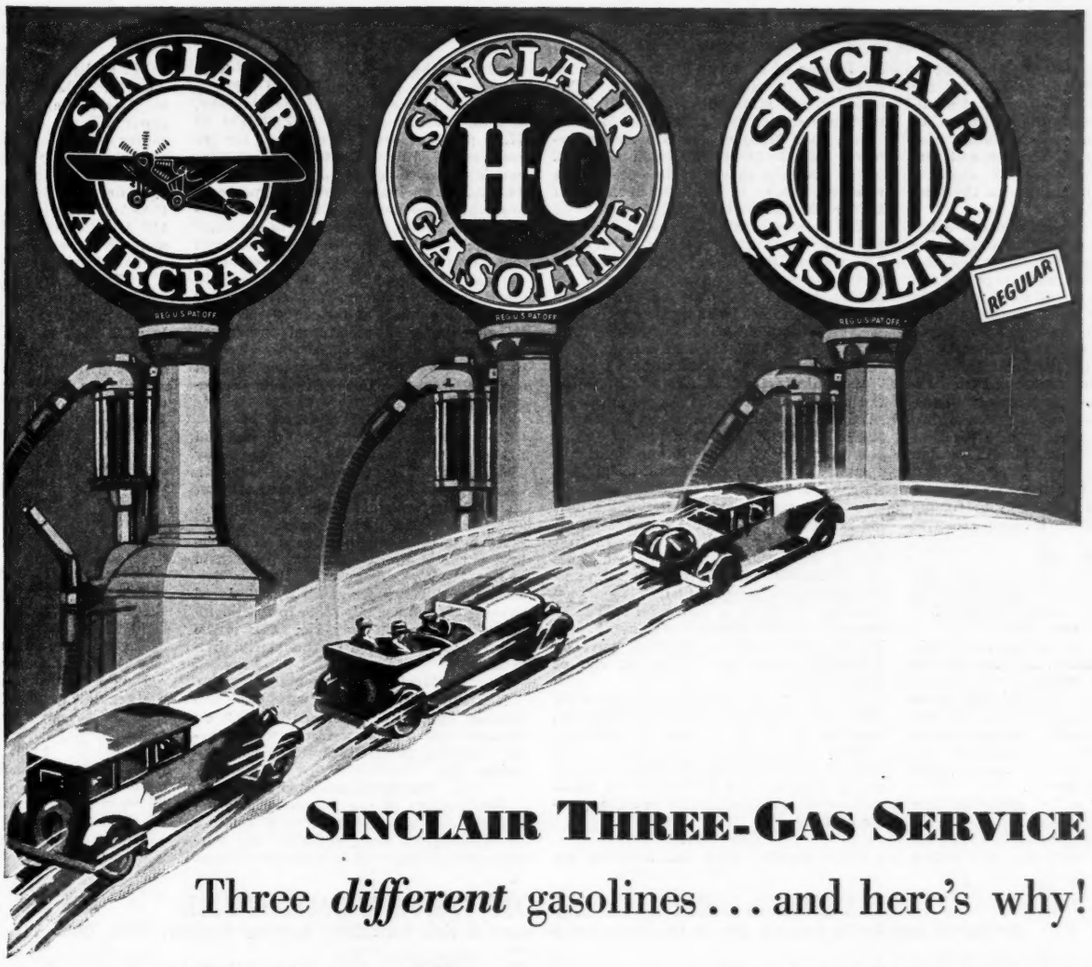
Lima (June 26, 1930)	$1.55
Wooster (June 26, 1930)	1.70
Illinois	1.60
Indiana (June 26, 1930)	1.32
Princeton	1.60
Plymouth	1.23
Western Kentucky	1.55
Midland, Mich.* (Aug. 21)	1.30
Dundee, Mich. (April 16)§	..... Same as Mid-Continent gravity scale
Upper and Lower Traverse Sands, Mich. (April 16)§	..... Same as Mid-Continent gravity scale
Saginaw, Mich. (April 11)†	..... Same as Mid-Continent gravity scale
Cumberland, Clay, Barren, Clinton and Monroe Counties, Kentucky (March 15)‡	1.50
Oil City, Ky. (July 25, 1930)§	1.35
Oil Springs (Canada) (June 28, 1930)¶	2.02
Petrolia (Canada) (June 28, 1930)¶	1.95

*Posted by Pure Oil Co. †Posted by Sun Oil Co. ‡Posted by Paragon Development Co. §Posted by Stoll Oil Refining Co. ¶Posted by Imperial Oil Co., Ltd. ‖Posted by Standard of Indiana for boat shipment. Local refiners posted Mid-Continent prices on April 11.

MEXICAN CRUDE

Panuco*	$0.85

*F.o.b. ship, based on July transactions.



SINCLAIR THREE-GAS SERVICE

Three *different* gasolines . . . and here's why!

Automobile engines are different. And motorists' driving habits are different, too.

Then, why shouldn't each motorist use a gas that's just right for his own engine and his own personal driving habits?

Sinclair has made it possible for dealers to let motorists *select* gasoline from three different kinds!

For the motorist who wants the *Ace* of high test gasolines — the gas for quick starting, flashing acceleration and brilliant performance in traffic and on the road — here's Sinclair Aircraft Gasoline. Sinclair Aircraft is the Ace of high test gasolines because it is specially manufactured at Sinclair Refineries, meeting the requirements of the Federal Specifications Board for Aviation Gasoline — domestic grade — and gives sustained power. Due to its careful fractionation it is free from dissolved gases which cause gas locks, uneven distribution, galloping and engine balk.

Or, for the man who wants to stop knocks in his engine — who wants high compression performance that takes the hills in high — here's Sinclair H-C Gasoline. It's *all* gasoline, nothing added.

And — for those who prefer to pay three cents less a gallon — here's Sinclair Regular Gasoline — full of eager power — full of mileage and economy! The quality gasoline at a popular price!

This is the way for the motorist to get gasoline satisfaction — and this is the way for the dealer to increase his gallonage — install the Pumps for Sinclair Three-Gas Service!

SINCLAIR REFINING COMPANY, INC.

45 Nassau Street, New York ***Atlanta, Chicago, Houston, Kansas City***

Sinclair Oil Co. Net Profit $3,251,709

Six Months' Report of Atlantic Refining, Five Months' Report for Ohio Oil and Other Company Announcements of Week

Sinclair Consolidated Oil Corp. reports gross earnings of $88,423,055.72 for the six months ended June 30, and net available for interest and other charges of $16,547,271.66. The amount available for common stock after all charges and preferred dividends was 49 cents a share, compared with $1.02 a share in the first six months of 1929.

Lessened profits are attributed to unsatisfactory prices prevailing during the period, and to generally unfavorable business conditions. Full advantage has not been obtained from investment in owned marketing facilities although the increase in gallonage through such facilities showed a large gain in the first six months of the year. Extensive drilling was necessary in the Oklahoma City Field, involving large expense, but owing to proration the corporation was unable to realize on this investment, since the flow of the wells is limited to a small fraction of developed production.

No effect is given in the above figures to the acquisition of the Pierce Petroleum properties which only became effective July 1.

Ohio Oil

Net profit of Ohio Oil Co. and subsidiaries for five months ended May 31, 1930, was $5,234,437 after depreciation, depletion, Federal taxes, etc.

Consolidated income account of Ohio Oil Co. and subsidiaries for five months ended May 31, 1930, follows: Sales $34,901,457; cost of sales $27,211,848; gross profit $7,689,609; other income $402,909; total income $8,092,518; ordinary taxes $727,434; depreciation and depletion reserve $1,991,348; Federal taxes $139,299; net profit $5,234,437.

The Ohio Oil Co. in proforma consolidated statement giving effect to acquisition of Transcontinental Oil Co., for five months ended May 31, 1930, shows net income of $7,292,272 after taxes, interest, depreciation and depletion. This is equivalent after allowing for dividend requirements for two months on 574,554 shares (par $100) of new 6 per cent preferred stock to $1.01 a share on 6,648,052 no-par common shares to be outstanding when all shares of Transcontinental Oil are exchanged for Ohio Oil stock.

The present outstanding certificates for $25 par common stock of the Ohio Oil Co., may be presented to the Chase National Bank of New York, transfer department, for exchange for certificates for common stock without par value, at the rate of two shares of new no-par common for each share of $25 par common.

Atlantic Refining

Pamphlet report of Atlantic Refining Co. and subsidiaries for six months ended June 30, 1930, shows net profit of $2,818,823 after interest, depreciation, depletion, Federal taxes, intangible development costs, etc., equivalent to $1.05 a share (par $25) on 2,689,066 average shares of common stock outstanding during the period, and $1.04 a share on 2,696,581 shares at end of June. In first half of 1929, company reported net profit of $8,862,409 equal after dividend requirements on preferred stock then outstanding to $3.67 a share on 2,222,222 average common shares outstanding during the period and to $3.06 a share on 2,666,634 shares outstanding at end of June, 1929.

Net profit for quarter ended June 30, 1930, was $1,694,523 after above charges, equal to 63 cents a share on 2,696,581 shares, comparing with $1,124,300 or 42 cents a share on 2,685,884 shares in preceding quarter and $4,969,809 or $1.73 a share on 2,666,634 shares in June quarter of 1929.

Cities Service

Cities Service Co.'s net earnings for the 12 months ended July 31, 1930, were $55,889,191, a new high record for any 12 months in the history of the company, and an increase of over $17,927,194 or 47.22 per cent over net earnings for the year ended July 31, 1929. The company's net earnings for July, 1930, were $4,852,745, an increase of 41.74 per cent over the same month last year. Coincident with the publication of its earnings' statement, Cities Service Co. announced monthly dividends of 2½ cents per share in cash and one-half of 1 per cent in stock on the common stock. Regular monthly dividends of 50 cents per share on the preferred stock and preference BB stock and 5 cents per share on the preference B stock were announced, all payable October 1 to stockholders of record September 15.

Signal Oil & Gas

The Board of Directors of Signal Oil & Gas Co. declared the regular quarterly dividend of 50 cents per share on both Class A and B stock of record August 30, payable September 10.

Western Exploration

At a meeting of the Board of Directors of the Western Exploration Co. held at Casper, Wyo., August 15, 1930, a dividend of 2½ cents per share was declared payable September 20, 1930, to stockholders of record September 15. This is the twenty-eighth consecutive quarterly dividend.

Mexican Petroleum

Mexican Petroleum Co. declared the regular quarterly dividends of $3 on common and $2 on preferred, both payable October 20 to stock of record September 30.

Pan-American-Lago

Stockholders of the Pan-American Petroleum & Transport Co., at a meeting in Wilmington, Del., approved the purchase of the Lago Oil & Transport Corp., by an exchange of one-half share of Pan-American Class B stock for every share of Lago. Pan-American already held about 97 per cent of the outstanding shares of Lago. The Lago stockholders also approved the merger. As a result, Lago will become a 100 per cent owned subsidiary of the Pan-American company. Pan-American is controlled by the Standard Oil Co. of Indiana through ownership of more than 80 per cent of the combined common shares.

Twenty Representative Stocks

The Oil and Gas Journal's weekly average price of 20 representative petroleum stocks listed on the New York Stock Exchange and New York Curb, based on closing quotations for Wednesday, was as follows:

Mar. 19	49.72	June 11	46.65
Mar. 26	51.00	June 18	41.41
Apr. 2	51.55	June 25	42.37
Apr. 9	53.26	July 2	44.13
Apr. 16	52.04	July 9	44.11
Apr. 23	53.39	July 16	46.42
Apr. 30	53.70	July 23	46.06
May 7	50.23	July 30	44.89
May 14	51.67	Aug. 6	45.24
May 21	49.71	Aug. 13	43.53
May 28	50.98	Aug. 20	43.79
June 4	50.94	Aug. 27	42.82

Southwest Pennsylvania Pipe Line

Southwest Pennsylvania Pipe Lines Co. declared the regular quarterly dividend of $1, payable October 1 to stock of record September 15.

North Central Texas Oil

North Central Texas Oil Co. declared the regular quarterly preferred dividend of $1.62½, payable October 1 to stock of record September 10.

Shell Union

Directors of Shell Union Oil Corp. have omitted the quarterly dividend of 35 cents on the common stock due at this time. The regular quarterly dividend of $1.37½ was declared on the preferred.

(Continued on Page 149)

INDEPENDENT OILS ON NEW YORK CURB

Quotations compiled by Francis, Bro. & Co., Associate Members of New York Curb, Kennedy Building, Tulsa, Okla.

1930 High	1930 Low	Week ended August 27 Sales	High	Low	Close	Stocks—		Outstanding capital	Par value	Div. rate	Last paid	1927 High	1927 Low	1928 High	1928 Low	1929 High	1929 Low
⅜	⅛	1,100	1/16	1/16	1/16	American Consolidated Oilfields		$11,018,000	$5	....	.....	2 7/16	.55	1½	.53	72c	⅛
4½	1½	500	2	1⅞	2	American Maracaibo	(sh)	700,000	N.P.	....	.....	7½	2¾	9½	3⅛	8⅝	1⅛
1⅜	1	300	1⅛	1⅛	1⅛	Argo Oil	(sh)	683,971	$10	....	.....	2¾	1	4½	2¼	5	1½
21	17	100	17	17	17	British American (new, C.W.I.)		1,311,321	N.P.	25cQ*	1- 2-30	40	20½	55	32¾	62	7⅞
2¾	¾	900	1⅜	1⅛	1⅛	Caribbean Syndicate		$131,250	25c	....	.....	28¼	15½	4½	3⅞	4⅞	1
44¼	24⅛	9,000	27⅝	27½	27¾	Cities Service	(sh)	24,290,359	N.P.	30cA†	1- 2-30	58¾	40¼	90⅞	54	68⅛	20
93⅞	88	400	90⅝	90⅝	90⅝	Cities Service pfd.	(sh)	1,500,000	N.P.	50cM	1- 2-30	95⅜	87	103½	94½	98¾	84
¾	¼	4,600	1/16	¼	1/16	Colombia Syndicate		$2,000,000	$1	....	.....	3⅞	1⅛	3¼	.76	2	½
5⅞	3½	200	3½	3½	3½	Consolidated Royalty		$5,000,000	$10	12½cQ	7-25-30	9¾	6⅜	8⅞	6¼	11⅛	2½
7⅝	5⅜	500	5⅜	5¼	5¼	Creole Petroleum E	(sh)	5,977,873	N.P.	....	.....	14⅞	9½	17½	9½	11¾	5⅜
1	¼	1,500	⅜	⅜	⅜	Crown Central	(sh)	587,000	N.P.	....	.....	3	.50	3¼	.76	2½	¼
31¾	11½	100	11½	11½	11½	Darby Petroleum (new)		1,019,392	N.P.	25cvQ	1-15-30	12	4	33½	3¼	26	6½
11	4½	600	6½	6½	6½	Derby Oil & Refining	(sh)	500,000	N.P.	....	.....	2½	74	2¼	1	11	2
60	30	50	42	42	42	Derby Oil & Refining pfd.		48,500	N.P.	....	.....	16¾	4	21⅛	7½	44	20¾
166⅞	115¼	200	121	120⅝	120⅝	Gulf Oil Corp.	(sh)	4,504,921	$25	37½Q	1- 1-30	118	86¾	165	101⅛	209	115
1¾	¾	1,600	¾	¾	¾	Intercontinental Petroleum		$5,682,000	$5	....	.....	2½	.80	3⅜	1	2⅞	⅜
3	1⅝	200	1¾	1¾	1¾	Kirby Petroleum	(sh)	750,000	N.P.	....	.....	2¼	1⅛	3	1¼	3⅝	1¼
4¾	1⅛	3,000	1½	1¼	1¼	Leonard Oil & Development		$50,000,000	$25	....	.....	10⅞	5⅛	9⅜	5⅛	6⅛	1
29	18⅝	100	18⅞	18⅞	18⅞	Lion Oil & Refining	(sh)	250,000	N.P.	50cQ	1-31-30	27½	20	43⅞	20	38⅞	18
55⅞	34⅛	100	38	38	38	Lone Star Gas	(sh)	5,000,000	N.P.	20cQ	12-31-29	59⅜	37	69⅛	48½	67⅞	28
½	⅛	100	⅛	⅛	⅛	Magdalena Syndicate	(sh)	850,000	$1	....	.....	2⅞	.80	1⅞	.50	1¼	¼
16	12	100	12½	12½	12½	Margay Oils		160,000	N.P.	50cQ	1-10-30	52	12	48½	32	38½	14
7½	2	400	2⅞	2¾	2¾	Mexico-Ohio Oil		.....	...	....	.....	12⅛	5	8	2¾	6⅜	2½
¾	⅜	300	1/16	1/16	1/16	Mountain & Gulf		$4,000,000	$1	2cQ	1-15-30	1½	1	1¾	.76	1½	¼
12⅛	8	600	9⅞	9⅞	9⅞	Mountain Producers		$1,682,182	$10	40cQ	1- 2-30	29¼	22¾	28⅞	19½	22⅞	7
3½	2⅜	400	2½	2⅜	2⅜	New Bradford Oil		$1,095,291	$5	12½cQ	1-15-30	5⅞	4⅝	5⅝	4¼	5	2½
7¼	3⅛	300	4	3⅝	4	New Mexico & Arizona		$1,000,000	$1	....	.....	16	9¼	11⅞	7⅛	9⅜	2¼
11¼	6	100	7	7	7	North Central Texas	(sh)	400,000	N.P.	15cQ	12- 2-29	12¾	9½	14¼	8½	18½	6⅛
2½	⅜	3,700	½	⅜	½	Pandem	(sh)	489,875	N.P.	....	.....	9⅜	3¼	6	2⅛	3½	½
4⅜	1⅝	700	2	2	2	Pantapec Oil	(sh)	1,506,000	N.P.	....	.....	12⅛	7	15⅝	8½	10½	1⅞
No sales.						Pennok Oil		150,000	N.P.	....	.....	13½	5⅛	7¾	4⅞	7¾	4⅜
10½	8⅛	100	8⅛	8⅛	8⅛	Red Bank Oil	(sh)	250.000	N.P.	....	.....	24⅜	7	18	4⅞	16	9⅝
5⅜	2⅛	1,600	3½	3¼	3⅜	Reiter-Foster	(sh)	388,584	N.P.	10cQ	12- 9-29	15½	3½	12⅞	4⅛	8½	1⅛
8⅝	3⅝	200	4	4	4	Ryan Consolidated	(sh)	500,000	N.P.	....	.....	7	4½	12	4⅛	11	3
2½	1⅜	100	1⅞	1⅞	1⅞	Salt Creek Consolidated	(sh)	1,286,300	$10	10cQ	1- 2-30	8	5¼	7¼	5½	5⅞	1⅞
15¼	8¼	3,300	11	10¾	11	Salt Creek Producers	(sh)	1,496,859	$10	50cQ	2- 1-30	35½	27¼	35	23⅛	25⅞	9
1	½	100	½	½	½	Savoy Oil		$750,000	$5	....	.....	7	1¼	3½	1	2½	1/16
No sales.						Transcontinental pfd.		.....	...	....	.....	..	..	..	..	..	..
4½	2	100	2⅛	2⅛	2⅛	Venezuelan Petroleum	(sh)	755,090	$5	5cQ	11-15-29	7⅜	4¼	9⅛	4¾	6½	1⅜
5	2	200	4	4	4	Woodley Petroleum		$500.000	$1	....	.....	7	4¾	8¼	4⅞	9½	2
2½	½	200	1	¾	¾	Y Oil & Gas		100,000	N.P.	....	.....	6	1¾	8⅜	2⅛	2⅞	¼

*Including one-half per cent monthly in stock. †Payable monthly and a monthly stock dividend of one-half per cent. x Ex-dividend.

STANDARD OIL STOCKS ON NEW YORK CURB

Quotations compiled by Francis, Bro. & Co., Associate Members of New York Curb, Kennedy Building, Tulsa, Okla.

1930 High	1930 Low	Week ended August 27 Sales	High	Low	Close	Stocks—		Outstanding capital	Par value	Div. rate	Last paid	1927 High	1927 Low	1928 High	1928 Low	1929 High	1929 Low
18½	12¼	400	18½	18⅜	18⅜	Anglo-American Oil (vot. C.O.D.)		£4,192,635	£1	.36 5/16	11-27-29	21⅝	17⅞	22⅜	14⅞	17	11
1	⅜	100	½	½	½	Atlantic Lobos		.....	...	....	.....	..	..	..	..	..	..
25	14	50	17	17	17	Borne Scrymser		$1,000,000	$25	$1SA	10-15-29	59	50	56½	44½	46½	25
69	54½	4,200	55⅞	55	55⅞	Buckeye Pipe Line		$10,000,000	$50	$1Q	12-14-29	60	45	76	53	74½	55
184⅞	140⅛	100	147	147	147	Chesebrough Mfg.		$3,000,000	$25	$1Q*	12-30-29	126	76½	161	117	210	130
17¾	10	500	10	10	10	Continental Oil (V.T.C.)		$36,057,840	$10	....	12-15-27	22⅝	16¾	23	16	29	10
65¾	30½	100	36	36	36	Cumberland Pipe Line		$1,500,000	$50	$1Q	12-15-29	137	89	114	67	75¾	40
54¾	29	100	39	39	39	Eureka Pipe Line		$5,000,000	$100	$1Q	11- 1-29	68½	47	88	64½	70½	42
7	2½	200	5	5	5	Galena Oil Corp.		$16,000,000	$100	....	.....	13½	3½	13	4¼	6½	3
119	78	400	85¾	85½	85¾	Humble Oil & Refining		$74,103,300	$25	50cQ	1- 1-30	68½	54	114¾	59¼	128	74⅛
320	303	100	320	315	315	Indiana Pipe Line (new)		$20,000,000	$100	$10SA	12-16-29	182	123¾	290½	176½	340½	260
30	18⅛	400	19¼	19⅛	19⅛	Imperial Oil of Canada (new)	(sh)	26,421,768	N.P.	12½cQ	12- 2-29	64¾	37¾	104	56¾	41	22
41	31¾	100	32⅛	32⅛	32⅛	Indiana Pipe Line		$3,000,000	$10	50cQ‡	2-15-30	94½	61	91⅞	74⅜	41⅞	26
24	17⅝	1,700	17⅞	17⅝	17⅝	International Petroleum	(sh)	14,247,088	N.P.	12½cQ	12-16-29	29	28¼	55	35	30⅜	15
22⅜	15⅛	100	16⅝	16⅝	16⅝	National Transit		$6,362,500	$12.50	25cQ‡	12-16-29	24	13½	32⅜	19⅜	25⅛	10½
21⅜	10⅛	200	14½	14⅜	14⅜	New York Transit (new)		$1,000,000	$10	40cQ†	1-15-30	44½	31¼	75	38½	17½	10
54	35½	50	37	37	37	Northern Pipe Line		$2,000,000	$50	$2SA	1- 2-30	100	70	69	56½	63	41
76⅜	62	400	64¾	62⅞	63¾	Ohio Oil Co.		.....	...	....	.....	..	..	..	..	..	..
32	17	200	23⅛	23	23⅛	Ohio Oil (new W.I.)		$60,000,000	$25	5cQ‡	12-14-29	67⅞	52	84	58½	79⅞	64⅛
33	13½	200	13½	13½	13½	Penn Mex Fuel		$10,000,000	$25	50cQ	12-14-29	39	12	84	28	44½	20
20⅞	13	200	18¼	18	18	Solar Refining		$4,000,000	$25	$1.25SA	12-20-29	..	..	..	..	50	29
45⅞	35	600	37½	36⅜	37½	Southern Pipe Line		$1,000,000	$10	5cQ	.....	27¼	15½	19	15	22½	13
65	35	100	45¼	45¼	45¼	South Penn Oil (new)		$30,000,000	$25	50cQ	12-30-29	41½	35	71⅞	36¾	60¼	35⅛
59⅞	47⅝	3,400	49⅞	49¾	49⅞	Southwest Pennsylvania Pipe Lines		$1,750,000	$50	$1Q	1-10-29	83	55½	102	70	70	60
40½	30⅛	1,000	31⅛	30⅞	30⅞	Standard Oil of Indiana		$348,175,069	$25	62½cQ‡	12-16-29	81½	64⅜	95⅞	70⅞	63	45
48⅞	44⅛	300	48½	47¾	48⅛	Standard Oil of Kentucky		$25,654,516	$10	40cQ	12-16-29	130	111½	179¾	122¼	46⅞	29
108½	75⅛	200	76¼	76¼	76¼	Standard Oil of Nebraska		$4,649,225	$25	62½cQ‡	12-20-29	49½	40	54⅞	39⅞	50¼	40
10	7	100	7	7	7	Standard Oil of Ohio		$14,000,000	$25	62½cQ	1- 2-30	87½	72	134	71	129	60
97⅞	76¼	500	79½	79⅜	79⅜	Swan-Finch Co.		$861,466	$25	....	12- 2-29	21	14½	23½	16	18	10
34⅛	30¾	4,400	32¼	31⅜	31⅜	Vacuum Oil Co.		$126,180,350	$25	$1Q	12-20-29	..	..	111	72	133¾	75

*Plus 50 cents extra. †Plus 10 cents extra. ‡Plus 25 cents extra. x Ex-dividend.

TRANSACTIONS IN OIL SHARES ON NEW YORK STOCK EXCHANGE

Quotations Compiled by Francis, Bro. & Co., Members of the New York Stock Exchange and Associate Members of New York Curb, Kennedy Building, Tulsa, Okla.

1930 High	1930 Low	Week ended August 27 Sales	High	Low	Close	Stocks—		Outstanding capital	Par value	Div. rate	Last paid	1927 High	1927 Low	1928 High	1928 Low	1929 High	1929 Low
31½	18	500	24	23½	24	Amerada Corp.	(sh)	922,075	N.P.	50cQ	1-31-30	37⅝	27⅝	43⅞	27⅛	42⅝	17½
37	15¼	100	17	17	17	American Republic Corp.	(sh)	209,180	N.P.	....	3-20-29	82½	35⅛	85	51⅛	64¾	12½
51	32½	30	42	42	42	Associated Oil		$57,260,300	$25	50cQ	12-31-29	50¼	35	53⅜	37½	47¼	34½
51⅜	30⅛	1,600	34⅜	33⅝	33¾	Atlantic Refining		$66,763,775	$25	25cQ	12-16-29	131⅜	104	66⅜	50	77⅞	30
34	20½	500	22	22	22	Barnsdall Corp. A		$56,546,600	$25	50cQ	12- 7-29	35½	20¾	54	20	49⅛	20
30½	18⅜	2,200	20	19⅛	19⅜	Continental Oil of Delaware	(sh)	4,741,554	N.P.	....	3-31-27	..	..	..	..	47⅛	18
71⅛	38⅝	800	41¼	39⅛	39⅛	General Asphalt	(sh)	413,333	N.P.	50cQ	.....	96¾	65	94⅞	68	94¾	42¼
116⅞	52¼	7,200	81¾	79⅝	79¾	Houston Oil		$24,968,600	$100	....	.....	175¾	60½	167	79	109	26
32	19⅜	1,200	21⅛	20½	20½	Independent Oil & Gas	(sh)	1,362,295	N.P.	50cQ	1-31-30	32¾	17⅝	38⅜	21¾	39⅜	17¾
28⅜	8¾	400	11⅝	11½	11½	Indian Refining		$12,565,070	$10	....	5-31-24	12¼	7⅝	39⅝	9	53	13⅛
29½	21¼	1,400	29	28½	28½	Lago Oil & Transport	(sh)	3,992,122	N.P.	....	5- 1-27	37¾	20½	39⅛	27⅜	38⅜	16½
12	8	1,300	8⅞	8½	8⅞	Louisiana Oil Refining	(sh)	1,190,063	N.P.	....	.....	18⅛	10	19¾	9⅜	18	7
10⅜	4½	100	4½	4½	4½	Maracaibo Oil	(sh)	330,000	N.P.	....	.....	22¾	12	25½	12½	18½	5⅛
37	16⅛	8,300	22½	21⅞	22	Mexican Seaboard	(sh)	1,244,383	N.P.	....	12-15-20	9¼	3	72	4⅝	69⅜	8¼
33	22⅛	500	23¼	22¾	23¼	Mid-Continent Petroleum	(sh)	1,857,912	N.P.	50cQ	12-15-29	39⅜	25½	44½	25⅛	39⅞	22¼
2½	⅞	700	1⅛	1⅛	1⅛	Middle States ctfs.		$23,736,130	$10	....	7- 1-23	3¾	1⅝	7⅜	2⅜	5⅛	⅜
64¼	51⅝	100	54⅛	54⅛	54⅛	Pan American P. & T.		$50,084,700	$50	....	10-20-27	65⅞	40⅛	50⅞	38¼	69	40½
67½	50½	300	55	55	55	Pan American P. & T. "B"		$121,110,650	$50	....	11-15-24	66⅜	40¼	58⅞	37¾	69¼	40½
		No sales.				Pan American Western "B"		400,000	N.P.	....	1-30-27	37⅞	16¾	28⅜	15½	18½	13⅝
12¾	4⅛	100	5⅞	5⅞	5⅞	Panhandle P. & R.	(sh)	199,370	N.P.	....	.....	18⅞	8	21¾	11½	15¼	3
80	47½	100	70	70	70	Panhandle P. & R. pfd.		$2,564,400	$100	....	7- 2-23	83	54	108	70	76	47½
44¾	29⅛	3,400	32	31⅛	32	Phillips Petroleum	(sh)	2,593,075	N.P.	50cQ	1- 2-30	60¼	36¼	53⅞	35¼	47	24¼
2½	1	100	1	1	1	Pierce Oil Corp.		$29,622,831	$25	....	.....	1⅛	½	5¼	½	3⅜	1
7⅛	2¼	100	4⅝	4⅝	4⅝	Pierce Petroleum	(sh)	2,500,000	N.P.	....	.....	5½	2½	7	3½	5⅞	½
54	33¾	200	34	34	34	Prairie Oil & Gas		$60,848,000	$25	50cQ*	12-31-29	55½	45⅝	68	46	65⅝	40½
60	44	300	46⅝	46⅝	46⅝	Prairie Pipe Line		$101,250,000	$25	75cQ†	12-31-29	190	130¾	280	172	65	45
11⅞	6½	300	7¼	7¼	7¼	Producers & Refiners		$37,438,950	$50	....	9-15-23	33⅞	16¾	29⅞	16	25⅞	4
40	30	10	30	30	30	Producers & Refiners pfd.		$2,845,350	$50	....	5- 1-25	50	36⅞	49⅝	41	46¾	25½
27¼	19½	1,500	20	19⅞	19⅞	Pure Oil		$75,959,250	$25	37½cQ	12- 2-29	33½	25	31⅝	19	30¾	20
28¼	14¾	1,300	15¼	14⅞	15	Richfield Oil		$52,410,875	$25	50cQ	11-15-29	28⅝	25⅜	56	23	49⅝	20
25⅜	15	400	16¼	16	16	Rio Grande Oil	(sh)	1,236,270	N.P.	$2A	7-25-29	..	..	37½	32	42½	15
56½	45¾	1,900	47⅞	47	47⅞	Royal Dutch, N. Y.	(sh)	611,303	$1.873	....	9-13-29	54½	44¼	64	44⅝	64	43⅛
48¾	40	450	42	40	40⅛	Shell Transport & Trading Co.		£23,985,000	£1	$1.45	7-23-29	48⅝	40½	47⅞	41⅜	51½	40⅝
25½	14	3,600	14⅜	14	14¼	Shell Union Oil	(sh)	13,066,497	N.P.	35cQ	12-31-29	31¾	23⅝	39¼	23¼	31⅜	19
37	18	200	18⅛	18⅛	18⅛	Simms Petroleum		$8,353,620	$10	40cQ	12-14-29	25⅜	14¼	27¼	18⅛	40⅛	15
32	20	7,900	21⅛	20½	20¾	Sinclair Consolidated	(sh)	5,500,000	N.P.	50cQ	1-15-30	22⅜	15	46¾	17⅜	45	21
112¼	108	400	110⅜	110¼	110¼	Sinclair Consolidated pfd.		$16,025,250	$100	$2Q	11-15-29	104½	97	110	102½	111	103
42	27⅛	1,000	27⅝	27¼	27¼	Skelly Oil		$27,441,250	$25	50cQ	12-16-29	37⅜	24½	42⅝	25	40½	28
75	55½	300	60⅜	60⅜	60⅜	Standard Oil of California	(sh)	12,594,098	N.P.	62½cQ	2-15-30	60¾	50⅜	80	63	81⅞	51½
49	29	200	30	30	30	Standard Oil of Kansas		$8,000,000	$25	50cQ	12-16-29	20⅞	14⅝	37¾	15	33¾	18
84⅞	58	18,800	69⅞	68⅞	69¼	Standard Oil of New Jersey		$634,999,200	$25	25cQ*	12-16-29	41⅜	35¼	59⅜	37¾	83	49
40⅜	30	2,000	31¼	30⅞	31⅛	Standard Oil of New York		$445,223,675	$25	40cQ	12-16-29	34⅛	29¾	33¼	28¾	48⅛	31¾
70	50	200	58	57¾	58	Sun Oil	(sh)	1,416,869	N.P.	25cQ	12-16-29	34⅞	30	77	31½	68⅜	55
9⅜	2	400	2¾	2⅝	2¾	Superior Oil Corp.	(sh)	776,979	N.P.	....	12-20-20	..	..	..	..	24	5¼
60½	50⅛	1,400	52	51½	52	The Texas Corp.		$246,204,900	$25	75cQ	1- 1-30	58	45	74¾	50	71⅞	50
14½	8¼	1,000	8¾	8½	8¾	Texas Pacific Coal & Oil Co.		$9,304,890	$10	2½%A‡	12-31-29	18⅞	12	26⅝	12⅛	23⅞	9½
31	19½	200	30¾	28¾	30¾	Tide Water Oil	(sh)	2,191,759	N.P.	20cQ	12-31-29	29⅛	19	41½	19⅝	40	14
94⅞	83	200	91	91	91	Tide Water 5% pfd.		$19,947,000	$100	$1.25Q	11-15-29	90⅛	85	100⅛	86	97½	85⅛
17¾	10¾	900	14½	14½	14½	Tide Water Associated	(sh)	5,560,424	N.P.	30cS	2-15-30	19⅛	15¾	25	14¾	23½	10
89¾	78	100	84¾	84¾	84¾	Tide Water Associated pfd.		$73,284,500	...	$1.50Q	2- 2-30	..	..	..	..	90⅞	74⅛
24	16¼	3,000	18	17⅞	17⅞	Transcontinental Oil	(sh)	3,742,029	N.P.	....	.....	10⅜	3¾	14¾	7¼	15¼	5⅛
50	37	1,100	39⅝	39⅝	39⅝	Union Oil of California		$104,342,375	$25	50cQ	11- 9-29	56½	39⅝	58	42⅜	57	42⅛
38½	25¼	200	26¾	26½	26½	Union Tank Car	(sh)	1,254,048	$100	$1.25Q	12- 2-29	127½	94	128¼	110	163¾	121⅞
27	11	1,500	11⅛	11	11	Warner-Quinlan	(sh)	632,948	N.P.	50cQ	1- 2-30	34½	24½	44⅞	26	42⅞	15
		No sales.				White Eagle Oil & Refining	(sh)	505,100	N.P.	50cQ	1-20-30	27½	20	38	20⅛	38	25
21	11½	300	16¼	16	16	Wilcox Oil & Gas	(sh)	428,907	N.P.	....	5-10-28	..	..	..	..	29¾	12⅞

*Plus extra dividend of 25 cents. †Plus extra dividend of 50 cents. ‡Payable in stock. x Ex-dividend.

In comparing highs and lows for the several years in the three tables, it will be necessary to take into consideration cases where there have been splits in the stock.

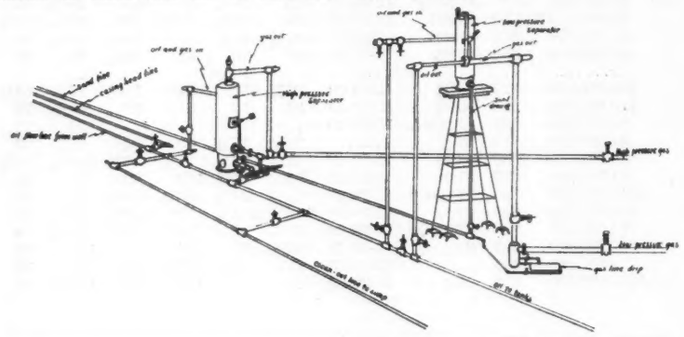
INSTALLATION OF OIL AND GAS SEPARATORS

(Continued from Page 38)

reduced the vapor losses from the field storage.

Flowing wells are frequently very touchy, particularly in their later life, and once killed the production man is fortunate who gets them back on production at their former rate. Therefore, the logical procedure is to make the initial separator installation in such a manner that as the pressure goes off it is possible to carry at all times a minimum back pressure on the tubing in accordance with the well characteristics.

If lease tank batteries are used care should be taken that the oil lines are



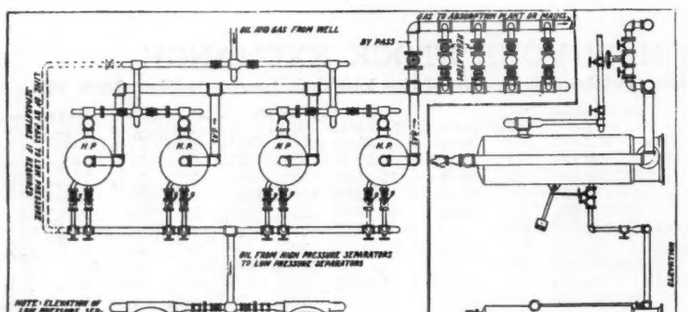

OIL AND GAS FROM WELL
BY PASS
GAS TO ABSORPTION PLANT OR MAINS
H.P.
OIL FROM HIGH PRESSURE SEPARATORS TO LOW PRESSURE SEPARATORS
LOW PRESSURE
OIL FROM LOW PRESSURE SEPARATORS TO TANK
GAS FROM LOW PRESSURE SEPARATORS
POSSIBLE MAKE UP OF HIGH PRESSURE AND LOW PRESSURE SEPARATORS
ELEVATION

Figure 1.

sufficiently large to permit of a gravity flow from the elevated separator so that atmospheric pressure or a vacuum may be carried on the separator in order to secure the maximum recovery of gas and natural gasoline fractions at the separator, thus minimizing gasoline loss and fire hazard at the tanks.

If all low-pressure separators are used to handle the large volume of flush production at atmospheric pressure, it is evident that a number of separators must

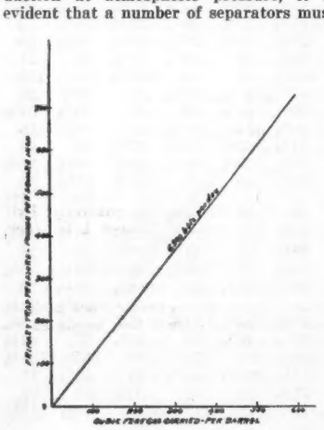


Figure 2—Approximate data for large wells. Gas dissolved and entrained per barrel of oil—recoverable from the secondary separator.

be installed and the volume of low-pressure gas that must be compressed to absorption plant operating pressures will be very large and the compressor plant installation and operating costs will also be very large.

Handling Flush Production

This brings us to the method of handling large, flush, high-pressure production that appears to be by far the most economical and satisfactory, namely, the installation of high and low-pressure separators in series.

With this installation the high-pressure separator or separators are set on the ground and the secondary separator is elevated at sufficient height to secure gravity flow to the field tanks, when a few inches of vacuum is pulled on the elevated separator.

All of the production goes through the high-pressure separators where the primary separation is made. The oil carrying dissolved and entrained gas then goes to the elevated secondary separator where the final separation is made. From data already secured it is possible to predict with rough accuracy the gas volumes and gasoline contents to be expected for each operation. Figure 1 shows a typical series hook-up. Figure 2 shows some data on dissolved and entrained gas and Figure 3 is an average gasoline content curve for the high-pressure separator. All of the curves made up have approximately this slope or shape, so that given one or two points fairly reasonable preliminary data can be secured by constructing parallel curves.

The first economy is in the cost of the separators to properly handle the production. Assume a well making 8,000 bbls. of oil and 25,000,000 feet of gas. Low-pressure separators to handle this gas production properly at atmospheric pressure would probably have an installed cost of $8,000 to $10,000 or more, while it could be efficiently handled by one high-pressure and one elevated low-pressure separator at an installed cost of about $5,000. On a number of big wells this item of cost runs up to a considerable savings figure.

However, the greatest saving, immediately apparent, is effected in the installation costs of compressor plants necessary to handle the very large volume of gas under the low pressure method of operation, bearing in mind that unless the low pressure method of separation is used, relatively large losses are incurred, due to the loss from the tanks of gas very rich in gasoline vapors.

Assume that this separation is made with separator pressures of 100 pounds, neither high nor low. An examination of Figure 2 indicates that there would be approximately 80 feet of gas dissolved and entrained, per barrel, at this pressure, which would make a total of about 600,000 feet of gas per day lost from the field storage tanks. Now, Figure 4 indicates that, when 100 pounds is held on the primary trap, we can expect to recover about 0.4 gallon of normal butane plus gasoline per barrel, or for 8,000 bbls., about 3,200 gallons of gasoline lost per day from the tanks, the gas having a gasoline content of 5 or 6 gallons per 1,000 feet. With a normal natural gasoline market this means a monetary loss of about $125 per day. This is quite a sizeable loss, which can be greatly reduced by the use of series separation with atmospheric pressure or less on the elevated unit.

Effect of Pressures

Figure 5 illustrates the effect of pressures on the gasoline content of the gas recovered from low pressure secondary separators and indicates the desirability of holding vacuum on the separator. Figure 4 gives more complete data covering various primary and secondary separator pressures. Slide No. 6 (Table 1) shows some actual results secured in gasoline recovery by lowering the secondary separator pressures.

Now assume, for example, a 100,000-gallon absorption plant to treat 50,000,000 feet per day of 2-gallon gas. To compress 50,000,000 feet per day from a negative pressure of 10 inches mercury to 30 pounds per square inch above atmospheric, would require about 93 horsepower per 1,000,000, or about 4,650 total horsepower, which at an installed cost of about $90 per horsepower would total about $400,000 for the compressor plant. The 30 pounds absorption might cost about $450,000, making a total investment required about $850,000.

Now, let us compare figures for another extreme case in which only the low pressure gas from the elevated secondary separator is treated. The primary separation is made at 500 pounds and the secondary separation at 10 inches vacuum. Figure 3 indicates a gasoline content for the 500-pound gas of about 0.6 gallon per 1,000. Use this gas for direct repressuring or gas lift purposes, in the local or adjacent fields, or sell it as a high pressure gas, premium price,

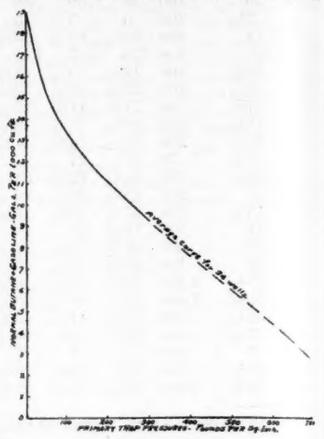


Figure 3—Normal Butane+Gasoline content of gas from primary trap for various primary trap pressures.

or yet, blow it to the air. Cooling and scrubbing will remove a fairly large percentage of its gasoline content.

Figure 4 indicates a gasoline content for the 10-inch vacuum gas of about 3 gallons per barrel, and, for comparison, 1.9 gallons per barrel for atmospheric gas. Figure 2 indicates a dissolved and entrained gas content of about 400 feet per barrel. Then handling 8,000 bbls.

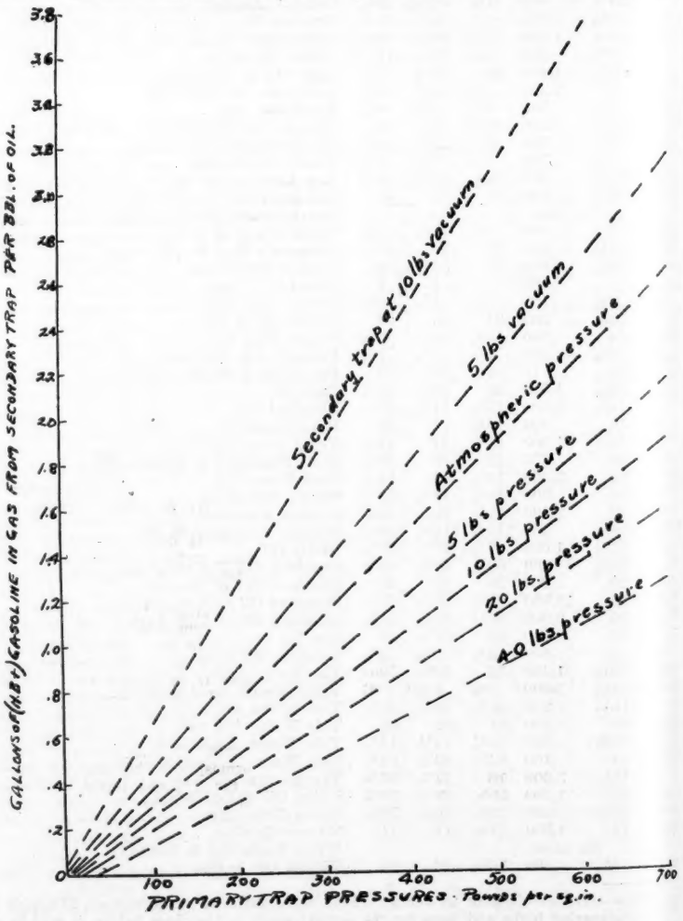

GALLONS OF (N.B.+) GASOLINE IN GAS FROM SECONDARY TRAP PER BBL. OF OIL.
Secondary trap at 10 lbs vacuum
5 lbs vacuum
Atmospheric pressure
5 lbs pressure
10 lbs pressure
20 lbs pressure
40 lbs pressure
PRIMARY TRAP PRESSURES - Pounds per sq. in.

Figure 4—Average gasoline content recoverable from secondary trap gas for various primary and secondary trap pressures given in gallons per barrel.

through the 10-inch vacuum separator we have about 24,000 gallons of gasoline per day carried in about 3,000,000 feet of gas, having a gasoline content of about 8 gallons per 1,000. For comparison, the atmospheric gas has a gasoline content of 15,000 gallons, or its value is about 5 gallons per 1,000.

Under the first condition it will require but 12,500,000 feet of 10-inch vacuum gas to secure 100,000 gallons of gasoline per day. This would require an oil production of about 33,000 bbls. per day.

To compress 12,500,000 feet per day from an intake of 20-inch vacuum to 30 pounds would require about 150 brake horsepower per 1,000,000 or a total of say 2,000 brake horsepower, ten 200-horsepower units, at an installed cost of about $200,000.

For the 5-gallon atmospheric gas it would require 20,000,000 feet per day to secure 100,000,000 gallons production. This would necessitate a 54,000-bbl. per day oil production, meaning a number of more wells and more separator and gas line installations. To compress 20,000,000 feet per day from 10 inches vacuum intake to 30 pounds would require about 93 brake horsepower per 1,000,000 or 1,860 horsepower total, say possibly nine 200-horsepower units at an installed cost of about $180,000. The installation costs are apparently just about a standoff with this consideration in favor of the carrying of 10 inches vacuum on the separator, that by the stripping of the additional gasoline from the oil the factor of vapor loss from the field and tank farm storage is entirely eliminated, thereby eliminating, also, the large costs of installation and maintenance of tank vapor recovery systems.

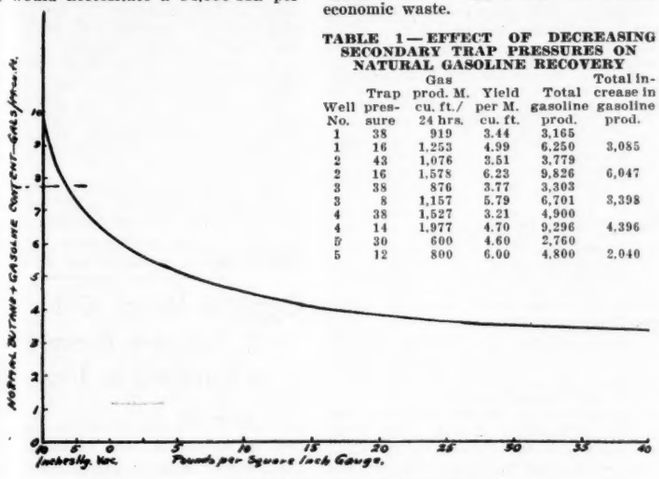


Figure 5—Normal butane+gasoline content of gas from secondary gas for various secondary trap pressures.

Direct Savings

It thus appears that the direct savings which might be effected for the case taken are in the neighborhood of $200,000, without considering the very large savings and economies that can be realized when full advantage is taken of the horsepower that is inherent to the high pressure gas, as noted before. There is no question but that economies running into very large sums can be effected for large scale operations covering a period of a few years.

A direct comparison of the installation costs of two 100,000-gallon plants, one operating at 30 pounds and the other at 450 pounds would show a cost for the low pressure plant of about $450,000, as above, as against a cost of about $300,000 for the 450-pound plant.

It seems that the logical installation is a combination low and high pressure plant. This would have considerable flexibility and would make possible the realization of marked economies over a long period of production operations.

Plant capacity for flush production is not usually justifiable. During the flush a large volume of gasoline-bearing gas is, of necessity, untreated. With a combination plant of 100,000 gallons rating, under these conditions, the low pressure elevated traps would be carried at 30 to 40 pounds, eliminating for a few months the cash outlay for compressor plants. The overloaded plant might well extract 175,000 gallons per day with inefficient stripping of the gas.

Later, as natural decline in production has taken place, all of the gas may be treated efficiently. The bulk of the gas, say 60,000,000 to 80,000,000 feet may be treated at a lowered high pressure. A vacuum may be held on the elevated secondary separator with compressor installation required for but 4,000,000 or 5,000,000 feet of very rich gas.

Provided natural gasoline is worth saving, and provided gas lift, repressuring or booster station operations are being carried on, the failure to take advantage of the many thousands of horsepower, that is furnished gratis in the high pressure gas and made available by the use of high pressure separators, takes on an appearance of apparently inexcusable economic waste.

TABLE 1—EFFECT OF DECREASING SECONDARY TRAP PRESSURES ON NATURAL GASOLINE RECOVERY

Well No.	Trap pressure	Gas prod. M. cu. ft./ 24 hrs.	Yield per M. cu. ft.	Total gasoline prod.	Total increase in gasoline prod.
1	38	919	3.44	3,165	
1	16	1,253	4.99	6,250	3,085
2	43	1,076	3.51	3,779	
2	16	1,578	6.23	9,826	6,047
3	38	876	3.77	3,303	
3	8	1,157	5.79	6,701	3,398
4	38	1,527	3.21	4,900	
4	14	1,977	4.70	9,296	4,396
5	30	600	4.60	2,760	
5	12	800	6.00	4,800	2,040

PRINCIPLES INVOLVED IN HYDROGENATION

(Continued from Page 40)

tion became possible. This is a cracking operation in which large quantities of unsaturated bodies cannot be formed, because, at the instant of decomposition, the primary substance, hydrogen, enters into combination to complete the molecular structure of the new compounds.

The work with coal resulted in the discovery that certain residues from coal, such as tars, were susceptible to hydrogenation. This fact had much to do with the developments for the application of the process to the treatment of petroleum residues.

The description of the Bergius process, as applied to coal, is quite generally known from that published in Germany[1] several years ago. The procedure may be outlined: A pasty mixture of coal and tar is prepared. This flows through a stirring device which is built of heavy metal and constructed to withstand a pressure of 2,200 pounds to the square inch. Here it is heated in an atmosphere of hydrogen to just below the final working temperature. The material then passes to the reaction chamber, which is similar in construction to the stirrer, where it is heated to between 800° and 900°F. under a pressure of 150 to 200 atmospheres. After treatment in the reaction chamber the distillate passes through a condenser. The pressure is reduced to atmospheric beyond the condenser and the gas and liquid products separated in the receiver. The gas, after the light condensable hydrocarbons have been extracted, is collected in a gasometer to be used as needed. Iron oxide is said to be used in the mixture as a catalytic agent.

The yield from bituminous coal mixed with iron oxide and treated with hydrogen is given by A. W. Nash[2] in a discussion of liquid fuels. The chart is arranged from the data presented by Professor Nash.

[1]Zeit. Ver. deut. Ing. 69, 1313, 1359; 1925.

Products from Coal by Hydrogenation
Charge 100 Per Cent

Oil	Gas	Water	Ammonia	Residue	Loss	Total
44.5	21.0	7.5	0.5	35.0	1.5	110

After Coking

Oil	Coke	Gas	Loss
8.0	24.0	2.5	0.5

Total Oil Yields

Gasoline	15.0
Distillate	20.00
Lubricating oil	6.0
Fuel oil	8.0
Loss	3.5

The gasoline had an initial of 86 degrees and an endpoint of 446°F. There is an indicated total yield of 110 per cent, which is accounted for by the hydrogen absorbed. This will vary somewhat, according to the kind of material hydrogenated but depends primarily on the quantity of hydrogen added, and to some extent upon the quantity of iron oxide or other catalyst used.

Among the materials that appear to offer possibilities for making desirable products by the hydrogenation process are the natural sands of bituminous character. One example may be given. The bituminous sands of Alberta, Canada, have been investigated by Boomer and Saddington. They report[3] that when the bitumen from the Alberta tar sands is hydrogenated at high temperatures and pressures, a yield of light oil equivalent to 80 per cent of the bitumen was obtained. It is their opinion that with some improvements in the apparatus the yield will be increased. The working temperature was about 716°F. Ammonium molybdate and aluminum chloride were found to be the best catalysts. The absorption of hydrogen was equivalent to 3 per cent by weight, based on the weight of the bitumen treated. The oil obtained had a sulphur content of approximately half that of the bitumen and responded to ordinary refining methods for the recovery of a stable white gasoline.

Hydrogenation of Coal

The A.G.f. Steinkohlenverfluessigung und Veredelung, of Essen, has had in operation for a year and a half at Duisburg, a plant for the hydrogenation of coal. Extensive investigations of lignite, tars, coal, and petroleum, have been made at the Bergius plant at Leuna. The process has been subjected to study by numerous authorities in England, Germany and other countries.

The development work of the Bergius process has been sponsored by the I.G., Farbenindustrie, a firm well known for its excellent work in organic synthese, including the preparation of numerous dyes and other substances. They have perfected methods for the fixation of atmospheric nitrogen, the manufacture of artificial indigo, have made several of the alcohols, and were well prepared to further the work for the manufacture of a motor fuel from coal by the process of hydrogenation. As has been previously indicated in this paper, it was the numerous reports of the indicated success of the treatment of coal and oil mixtures that attracted the attention of the Standard Oil Co. of New Jersey to this process some three years ago.

Several experimental plants were built in the United States for the purpose of testing the possibilities of hydrogenating petroleum. The information gained while treating various petroleum distillates and residues was encouraging and the Standard Oil Co. arranged for the American rights to the Bergius patents. This company has transferred its ownership in the United States rights to a subsidiary, the Hydro Patents Co., from which it will be possible for anyone suitably prepared to obtain a license for its use.

The field to which the hydrogenation process may be applied includes: Conversion of coal and other carbonaceous matter into oil; conversion of heavy oil, both natural and synthetic, into light products; and the conversion of crude oil, intermediate products, or finished products, into similar products of modified chemical characteristics. An important consideration is that the process yields products of improved quality. The cracking processes now in use are based on a breaking down operation in which a part of a relatively heavy oil is changed to a lighter product. While cracking yields a large percentage of gasoline, there are formed as by-products, large quantities of heavy fuel oil or coke, depending on whether the charging stock is gas oil, fuel oil, and the type of operation. The hydrogenation process yields gasoline, or a total of products which are lighter than the charging stock. Large quantities of coke, inherent in cracking, are not produced and the formation of waste gas is reduced. The use of the process should make it unnecessary to make fuel oil in excess of market demand; in fact, it promises to meet the demand for a method of doing away with an economic waste, such as is required when fuel oil is burned.

The possibilities for the manufacture of lubricating oils of exceptional quality are of special interest. Very valuable information has been obtained concerning the nature of the lubricating oils from the experiments with coal; these have shown that oils possessing stability and viscosity required for lubricants were formed by hydrogenation. The tendency of the modern refiner of lubricating oils is away from intensive chemical treatment and to secure a high degree of purification by means of vacuum distillation. This method may be used with the hydrogenated oil. Wax has not been reported, and the fact that wax is easily cracked suggests that no appreciable quantities of this product may be expected.

[2]J. Inst. Petroleum Technologists, Vol. 13, 681; 1927.

[3]Canadian Journal of Research, June, 1930.

SINCLAIR OIL COMPANY NET PROFIT $3,251,709

(Continued from Page 146)

This is the first time the company has omitted a dividend since payments were initiated in 1922.

J. C. Van Eck, president, said the decision to omit the common dividend reflected the decreased earnings of the company, partly as a result of the company's curtailment of production in conformity with "widespread policies which are being worked out in the interest of conservation and stabilization of the industry, and partly as a result of unsatisfactory price conditions prevailing in markets in which the company is selling its products."

South West Pennsylvania Pipe

South West Pennsylvania Pipe Lines Co. declared the regular quarterly dividend of $1, payable October 1 to stock of record September 15.

Royal Dutch Optimistic

Board of directors of Royal Dutch Petroleum Co. state, regarding stock decline, that nothing whatever has happened to shake the board's optimistic view of the future.

The Texas Corporation

The Texas Corporation declared the regular quarterly dividend of 75 cents, payable October 1 to stock of record September 5.

Phillips Petroleum

Phillips Petroleum Co. declared the

regular quarterly dividend of 50 cents, payable October 2 to stock of record September 16.

Vacuum Oil Head Sails

Charles E. Arnott, president of the Vacuum Oil Co., was a passenger aboard the S. S. Olympic en route to Europe. He said: "My trip abroad at this time is to look over our foreign business interests and to survey the prospects ahead." Mr. Arnott will be away six weeks.

Pure Oil

Pure Oil Co. declared regular quarterly dividends of $1.25 on the 5¼ per cent preferred, $1.50 on the 6 per cent preferred, and $2 on the 8 per cent preferred, all payable October 1 to stock of record September 10.

Humble Oil & Refining

Humble Oil & Refining Co. declared the regular quarterly dividend of 50 cents, payable October 1 to stock of record August 30.

Tidewater Associated

Tidewater Associated Oil Co. declared regular quarterly preferred dividend of $1.50 payable October 1 to stock of record September 9.

Associated Oil

Associated Oil Co. declared the regular quarterly dividend of 50 cents on common, payable September 30 to stock of record September 13.

MERGERS CHANGING REFINERY SITUATION

(Continued from Page 37)

A consolidation with the Standard of California would give the New Jersey company representation in the West and a large distribution in Ohio would be acquired through a merger with the Standard of Ohio. Consolidation with the Ohio Oil Co., another former Standard unit could be accomplished without the objection being made that it involved the merger of competitive marketing companies. In this connection some significance has been attached to the joint ownership by the Standard Oil Co. of New Jersey and the Ohio Oil Co. in the Ajax Pipe Line Co. which is building a pipe line transportation system connecting the Mid-Continent with the pipe line system of the Ohio Oil Co. in the Middle West.

Standard of Indiana

With refining and marketing representation in all parts of the country except the West Coast, the Standard Oil Co. of Indiana and its subsidiary companies, has been centering its activities on the expansion of properties already acquired. Through the Pan-American refinery built last year on Aruba Island, Dutch West Indies, the company has had adequate supplies for its expansion in the eastern states.

The Texas Corporation and the Shell companies, usually pointed to as the concerns which have gone farthest in the nationalization of their operations, are constantly expanding, although no large purchases or mergers of refining and marketing properties have been announced in recent months.

The operations of the major refining companies listed in the accompanying tables, not previously mentioned, are largely sectional in scope, although such companies as the Pure, Atlantic, Continental and Cities Service, are rapidly expanding. Several of these companies are mentioned in the "merger rumors" and it is generally believed some of them at least will figure in sales or consolidations as additional evidence of the advantages of large scale operations in the oil industry.

In this connection there are several important companies which in refining capacity are just outside a list confined to the first 20 organizations. Among this number are the Skelly Oil Co., Rio Grande Oil Co., Solar Refining Co., Indian Refining Co. and the Standard Oil Co. of Kansas.

Statistical Situation

Many statisticians are interested in the merger trend from the standpoint of concentration of refinery capacity with a similar expansion in marketing.

The first 10 organizations listed in the table have 66 per cent of the total crude oil refinery capacity in the United States. The remainder is scattered among approximately 200 companies. The same 10 companies have 78 per cent of the cracking capacity and 70 per cent of the combined skimming and cracking capacities.

The importance of the second 10 companies decreases rapidly. The second 10 have 13 per cent of the total crude oil capacity and 12 per cent of the cracking capacity. Thus the first 20 companies based on crude oil and cracking operations have over 82 per cent of the total capacity in the United States.

REFINERY LOCATIONS OF MAJOR ORGANIZATIONS

(Continued from Page 37)

	Daily crude oil cap.	Daily crack. cap.
Houston, Tex.	23,000	20,000
Tide Water Oil Co., Bayonne, N. J.	55,000	10,000
Tidal Refining Co., Drumright, Okla.	15,000	6,000
Tidal Western Oil Corp., Burkburnett, Tex.	3,000	.....
Associated Oil Co., Avon, Calif.	58,500	15,000
Watson, Calif.	18,000	.....
Producers & Refiners Corp., Parco, Wyo.	8,000	3,300
West Tulsa, Okla.	6,000	3,000
Total	277,200	126,800
4. Standard Oil Co. of New York and Vacuum Oil Co.:		
Standard Oil Co. of New York, Greenpoint, N. Y.	19,000	8,000
Olean, N. Y.	5,000	2,000
Providence, R. I.	10,000	6,000
White Eagle Oil Corp., Augusta, Kans.	10,000	7,000
Casper, Wyo.	6,000	6,000
Magnolia Petroleum Co., Beaumont, Tex.	55,000	44,000
Magpetco, Tex.	10,000	.....
Luling, Tex.	2,000	.....
Corsicana, Tex.	3,000	.....
Fort Worth, Tex.	5,000	.....
Fort Worth, Tex.	4,000	3,000
General Petroleum Corp., Vernon, Calif.	50,000	3,000
Torrance, Calif.	35,000	.....
Olinda, Calif.	2,000	.....
Vacuum Oil Co., Paulsboro, N. J.	7,500	3,000
Olean, N. Y.	20,000	12,000
Lubrite Refining Co., East St. Louis, Ill.	3,500	1,200
White Star Refining Co., Wood River, Ill.	5,000	3,000
Trenton, Mich.	6,000	3,600
Bartles-Maguire Oil Co., East Chicago, Ind.*	3,000	2,000
Total	261,000	103,800

*Negotiations for purchase by Vacuum Oil Co. pending.

5. Shell-Union Oil Corp.:		
Shell Oil Co. of California, Martinez, Calif.; Watson, Calif.; Coalinga, Calif.	100,000	54,000
Shell Petroleum Corp., Wood River, Ill.	46,000	30,000
East Chicago, Ind.	27,000	10,000
Arkansas City, Kans.	20,000	9,000
Houston, Tex.	20,000	10,000
Sellers, La.	15,000	10,000
Total	228,000	123,000
6. The Texas Corp.:		
The Texas Company of California, Watson, Calif.	30,000	7,000
Fillmore, Calif.	4,000	4,000
The Texas Company Delaware), Craig, Colo.	1,000	1,000
Lockport, Ill.	12,000	9,000
Pryse, Ky.	2,000	2,000
Sunburst, Mont.	4,500	.....
West Tulsa, Okla.	14,000	6,000
Marcus Hook, Pa.	1,500	.....
Providence, R. I.	1,500	.....
Port Arthur, Tex.	60,000	80,000
Port Nechez, Tex.	20,000	.....
Houston, Tex.	20,000	1,000
West Dallas, Tex.	16,000	3,600
San Antonio, Tex.	3,000	3,000
El Paso, Tex.	1,500	1,500
Amarillo, Tex.	3,000	1,500
Casper, Wyo.	7,000	7,900
Cody, Wyo.	3,000	1,500
Shreveport, La.	6,000	.....
Norfolk, Va.	1,500	.....
Total	211,500	129,000
7. Gulf Oil Corp.:		
Gulf Refining Co., Port Arthur, Tex.	125,000	52,000
Fort Worth, Tex.	6,000	4,000
Sweetwater, Tex.	5,000	4,000
Marcus Hook, Pa.	40,000	8,000
Pittsburgh, Pa.*	6,000	5,000
Paragon Refining Co., Toledo, Ohio	8,000	3,000
Total	220,000	77,000

*Under construction.

8. Standard Oil Co. of California:		
Standard Oil Co. of California, Richmond, Calif.	100,000	30,000
El Segundo, Calif.	100,000	20,000
Bakersfield, Calif.	25,000	.....
Pasotex Petroleum Co., El Paso, Tex.	10,000	.....
Total	235,000	40,000
9. Richfield Oil Co.:		
Richfield Oil Co., Hynes, Calif.	55,000	14,000
Watson, Calif.	65,000	14,000
Bakersfield, Calif.	2,000	.....
Fellows, Calif.	3,000	.....
Los Angeles, Calif.	4,000	.....
Total	129,000	28,000
10. Union Oil Co. of California:		
Union Oil Co. of California, Oleum, Calif.	30,000	.....
Brea, Calif.	6,000	.....
Los Angeles, Calif.	55,000	36,000
Santa Paula, Calif.	900	.....
Maltha, Calif.	5,000	.....
Arvila, Calif.	10,000	.....
Total	106,900	36,000
11. Pure Oil Co.:*		
Pure Oil Co., Ardmore, Okla.	3,000	2,400
Muskogee, Okla.	12,000	5,500
Marcus Hook, Pa.	25,000	11,000
Smiths Bluff, Tex.	32,000	21,000
Heath, Ohio	8,000	5,000
Cabin Creek, W. Va.	4,500	1,300
Total	84,500	46,200

*Pure Oil Co. has announced plans for the construction of a refinery at Toledo with an initial crude oil capacity of 6,000 bbls. daily.

12. Atlantic Refining Co.:		
Atlantic Refining Co., Brunswick, Ga.	5,000	3,600
Philadelphia, Pa.	50,000	22,600
Franklin, Pa.	9,000	6,000
Pittsburgh, Pa.	5,000	4,000
Total	69,000	36,200
13. Continental Oil Co.:		
Continental Oil Co., Florence, Colo.	3,000	1,500
Farmington, N. M.	1,000	.....
Artesia, N. M.	1,500	.....
Glenrock, Wyo.	4,000	.....
Wichita Falls, Tex.	6,000	2,000
Sapulpa, Okla.	10,000	3,600
Ponca City, Okla.	30,000	15,000
Baltimore, Md.	10,000	8,000
Total	65,500	30,100
14. Cities Service Co.:		
Empire Oil & Refining Co., East Chicago, Ind.	15,000	6,000
Okmulgee, Okla.	4,000	1,000
Ponca City, Okla.	7,500	5,000
Cushing, Okla.	5,000	2,000
Gainesville, Tex.	3,600	2,000
Crew Levick Co., Petty Island, N. J.	5,500	.....
Titusville, Pa.	3,000	1,500
Cities Service Refining Co., East Baintree, Mass.	15,000	3,000
Total	58,600	20,500
15. Sun Oil Co.:		
Sun Oil Co., Toledo, Ohio	15,000	3,000
Marcus Hook, Pa.	35,000	12,000
Yale, Okla.	5,000	.....
Total	55,000	15,000
16. Standard Oil Co. of Ohio:		
Standard Oil Co. of Ohio, Toledo, Ohio	12,000	5,000
Cleveland, Ohio	16,000	10,000
Latonia Refining Corp., Latonia, Ky.	8,000	2,500
Total	36,000	17,500
17. Mid-Continent Petroleum Corp.:		
Mid-Continent Petroleum Corp., West Tulsa, Okla.	40,000	12,000
18. Louisiana Oil Refining Corp.:		
Louisiana Oil Refining Corp. (three plants), Shreveport, La.	21,200	13,000
19. Ohio Oil Co.:		
Lincoln Oil Refining Co., Robinson, Ill.	12,000	7,200
Mid-Kansas Oil & Gas Co., Bristow, Okla.	5,000	1,350
Boynton, Okla.	2,500	900
Fort Worth, Tex.	5,000	1,350
Total	22,500	10,800
20. Barnsdall Oil Corp.:		
Barnsdall Refineries, Inc., Wichita, Kans.	4,000	1,500
Okmulgee, Okla.	15,000	3,500
Barnsdall, Okla.	5,000	4,000
Total	24,000	9,000

More Eastern Oil Men Agree to Curtailment For Next Five Years

BRADFORD, Pa., Aug. 30.—The conservation board of the Allegany district, New York State Oil Producers Association, announced that 190 producers in the field had signed up with the five-year co-operative agreement, leaving only 35 more producers to join the plan. With this number, the board now has under control approximately 90 per cent of the production in the Allegany Field.

A statement from the conservation board says that if the producers continue to co-operate with the board in the future as they have in the past, a reduction in the curtailment percentage throughout the field will be only a matter of time.

The fact that the southeastern Ohio fields did not benefit in the recent oil price increase was attributed to the fact that there is no conservation in the field, with the result that there is a surplus of Buckeye crude in lines.

George J. Hanks, president of the Bradford Transit Co. and the Tidewater Pipe Line Co., presented figures showing that the production in the Allegany district for the week ending Saturday morning, August 23, averaged 6,032 bbls. daily. This figure is comparable with 6,396, 6,888 and 6,591 bbls., the averages established for the three prior weeks in the same field. The daily production for all July was 7,111 bbls.

Progress in Bradford

The Bradford conservation board, it was pointed out, has secured the signatures of 155 producers to its five-year plan, and this, together with the work of the Allegany board, resulted in August in a substantial decrease in daily pipe line runs to refineries from the two fields.

The board decided at the Monday session to continue the present rate of proration, through September, at the same percentage as was observed during July and August.

The curtailment program in the northern fields is expected to be materially aided by the 30 per cent curtailment plan adopted by the southeastern Ohio and West Virginia producers last week.

Central Penn. Oil Producers Assn. Is Formed in Franklin

FRANKLIN, Pa., Aug. 30.—One hundred oil producers from Venango, Crawford, Forest, Clarion and Mercer Counties met in the courthous in this city, formed the Central Pennsylvania Oil Producers Association and elected officers and executive and conservation committees. Many of the producers present signed for a 30 per cent curtailment in runs until September 1 and others indicated that they would have to confer with associates before signing.

A committee was selected to make plans for a permanent organization and to nominate officers and committee members. As a result of their activity an organization was formed, with the following members of the executive committee: S. Y. Ramage of Oil City, D. B. McCalmont of Franklin, H. D. Panton of Foxburg, J. B. Osborn of Titusville, W. J. Brundred of Oil City, Wilbur Scofield of Pleasantville and H. J. Crawford of Emlenton.

Members of the conservation committee were selected from the various districts in the area and it will be their duty to visit the producers in the interests of curtailment. This committee is composed of the following: Clarion County, H. R. Panton, Foxburg; S. F. Amsler, St. Petersburg; L. S. Neely, Knox; J. M. McLaughlin, Shippenville; O. H. Culbertson, Clarion; Venango County, D. B. McCalmont, Isa H. Dale, E. E. Grimm, John Bridges, John L. Hanna, W. D. Doyle, John Ritchie, all of Franklin; George L. Eaton, S. Y. Ramage, W. J. Brundred, J. H. Isherwood, H. D. Brown, Frank O'Day, Dr. H. A. Downs of Oil City; S. N. Moyar and John Rynd of Rouseville; Wilbour Scofield and J. M. Bailey of Pleasantville; H. J. Crawford of Emlenton; Earl Hoffman of Clintonville and John R. McKinney of Bredinsburg; Crawford and Forest Counties, Forest Proper of Fagundus, C. C. Hogg of Pleasantville, J. B. Osborn, A. N. Warner and Dr. B. W. Bedford of Titusville.

At the close of the meeting the executive committee met and elected the following officers: President, D. B. McCalmont; vice president, H. R. Panton; secretary, H. B. Brown; treasurer, Eugene E. Grimm.

RIVALRY IN IRAK FIELD MAY FLOOD THE MARKET

(Continued from Page 41)

Vereinigte Stahlwerke, Gutehoffnungshutte, and Otto Wolff. A Franco-Swiss group was also asked to participate, consisting of the Union de Banques Suisses, Paul Girod, and Jules Bloch; 76 per cent of the shares are to be allotted in common to the Wemyss group and the Italians, and 12 per cent each to the German and the Franco-Swiss interests. The supply of materials for the pipe lines, productive operations, and the railway is to be apportioned as follows: 50 per cent to Britain and Italy, 38 per cent to Germany, and 12 per cent to Switzerland.

"This is the gist of the information available at the moment. It remains to be seen whether anything definite will eventuate, but it may be said that the present uncertainty regarding the political oil situation in France, the country most vitally interested in Iranian production apart from Irak itself, does not tend to strengthen the hands of the Irak Petroleum Co. The French Chamber rose for the recess without ratifying, or even debating, the agreement between the government and the Compagnie Francaise des Petroles, with the result that at the present time no one in France—neither the government nor the Compagnie des Petroles—has authority to represent the French interests in the Irak Petroleum Co."

Walter C. Teagle, president of Standard Oil Co. of New Jersey, one of the American participants in Turkish (or Irak) Petroleum Co., was quoted some time ago as stating that many years must elapse before the Turkish Petroleum Co. reaches a productive stage. Mr. Teagle is at present in London, but it is not known whether his visit at this time has anything to do with the recent developments in the affairs of Turkish Petroleum Co.

In view of generally unfavorable world petroleum markets, it is known that American and European companies identified with Turkish Petroleum Co. would like to defer further field development work and pipe line construction in Irak until world market conditions are such that the potential production of that country may be profitably marketed, but recent developments in the Iranian situation have led to the belief in some quarters of the industry that Turkish Petroleum, despite its commanding strategic position, may have its hand forced, in which event the world petroleum balance is in line for further disturbance.

TEMPERATURE RATINGS FOR AVIATION GASOLINES

(Continued from Page 39)

weather. Suppose we supply a mixture of equal parts of liquid fuel and air by weight to the cylinder, we need only evaporate 5 per cent of our fuel. However, suppose our given priming arrangement supplies under starting conditions a 1-to-1 fuel air mixture and 15 per cent evaporates at the manifold temperature, the resultant air fuel vapor mixture ratio will be 6⅔ to 1, which is too rich to give an explosion. This represents overpriming or flooding and is common in a hot motor or in very warm weather. It will be seen, therefore, that the percentage required to be evaporated depends upon the amount of fuel injected. In very cold weather it will be difficult to evaporate 5 per cent. In hot weather 30 per cent might evaporate and extreme care must be exercised to avoid overpriming. That is to say, the per cent to be evaporated depends upon the working temperature and pressure conditions in the engine which are dependent almost wholly upon the atmospheric conditions under which the engine is being started, and vary enormously.

Performance

"Having obtained our initial start, we must consider the problem of obtaining maximum performance as quickly as possible, and it is clear that in order to get this performance and at the same time not run the carburetor at an unnecessarily rich mixture strength, with a consequent crankcase dilution, it is necessary for somewhat larger proportion of the gasoline to evaporate. Suppose, for instance, we mixed a small quantity of very light material, such as ether or propane-butane mixture with a considerable quantity of heavy material, or in other words, use a fuel with a steeply rising distillation curve. It would then be easy to make a small quantity of light components evaporate, and so make the initial start possible, but a relatively high temperature would be required before the component could be evaporated, and with such a mixture it is necessary to supply a very rich mixture from the carburetor during this period, in order to supply enough of the very light material to the cylinders. It is desirable, therefore, to provide a fuel which has a small quantity of very light material and a larger quantity of medium light material, which will not require a high temperature for evaporation so that after the initial start the engine needs only to be warmed up for a short while in order to get maximum performance without supplying an excessively rich mixture from the carburetor."

Marketing Problems

While most of the papers dealt with problems of design and performance of the motor it was shown that intricate marketing problems are developing in providing for an adequate distribution of airplane fuels. The difficulty of transporting these fuels over long distances is recognized and appreciated but in some cases several grades of motor fuels are needed to meet popular demands. Some practical ideas regarding the handling and transporting of these fuels and the changes that take place in the gasoline while in storage were included in a paper read by E. V. McVitty of the Pan American Airways, Inc. He pointed out the hazard of storing gasoline in drums, especially in hot climates.

His objections were based on the fact that water often accumulates in the drum as a result of condensation of the air entering the drum each time it "breathed." Another factor of importance in storing gasoline is the tendency for the gasoline to form gum.

He said, "gum forms much more rapidly in gasolines stored in drums under tropical conditions than it would in the same gasoline in bulk storage in a more temperate climate. When drums corrode as explained above, this corrosion seems to have a catalytic action which accelerates the formation of gum. A gasoline-benzol mixture also seems to form gum faster than pure gasoline even though the gum content of the benzol is entirely satisfactory at the beginning of the storage period.

"Pan American Airways has not had extensive experience with the use of cracked gasoline, but such experience as it has had makes it reluctant to use this product. As much as 200 milligrams of gum by the copper dish test method have been found in cracked gasoline after storage of two or three months, although less than 3 milligrams of gum were present when the gasoline left the refinery. Unfortunately, no tests were being made at that time for performed gum so that no data are available as to the amount of gum actually present in the gasoline at the time of test."

Wide Distribution

The relatively high cost of manufacture and distribution of aviation gasolines compared with automobile fuel was clearly cited by C. M. Larson of the Sinclair Refining Co. as the reason why the wide distribution of suitable aircraft fuels may appear slow in developing.

He said that exclusive of the Army and Navy requirements, 22,593,000 gallons of aviation gasoline was sold in 1929 compared to 15,000,000,000 gallons of gasoline used in motor vehicles. Of this amount 3,774,000 gallons was consumed in private flying, 15,760,000 gallons in aerial service, and 3,059,000 gallons by scheduled transport planes. In analyzing these figures in detail he said: "If the 19,534,000 gallons used by the 6,114 airplanes operating under active licenses and comprising the private flying and aerial service be worked out on the basis of being dispensed at the 1,218 airports, this would figure out as 15,800 gallons per each airport per year. But, when it is estimated that 250 airports do 60 per cent of the gasoline business, it will readily be seen that many fields which are widely distributed handle only a very small proportion of this gallonage. By way of contrast, compare this with the 26,600,000 motor vehicles with their annual consumption of 15,000,000,000 gallons of gasoline.

"If aviation gasoline were of one standardized grade, such as the U. S. Motor fuel now being sold for automotive vehicles, the problem would be simple; but, when the field is split into five groups necessitating the carrying on hand of several grades of aircraft gasoline for such a limited demand over such a widely scattered territory, economic complication sets in and the petroleum refiner is discouraged because of the small special gasoline runs necessary to take care of these diversified requirements. Because of the small gallonage dispensed through these numerous fields, shipments to warehouse points are in most cases handled in drums in carload lots rather than in tank cars. Dispensing gasoline to airplanes from such drums is not at all satisfactory, this method having been considered hazardous during the war because of moisture and the contamination that is bound to occur."

He further pointed out that there are five classes of motor fuels on the market and showed where duplications exist in many characteristics so that this number might be reduced for the sake of simplifying the refiners and marketers' problems as well as lower the cost.

Five Classifications

Following are Mr. Larson's five classifications of aircraft designers:

1. Those suppliers or designers who follow the Department of Commerce Specifications Technical Paper 323B for Aviation Gasoline Domestic Grade. This group, desirous of giving recognition the Department of Commerce, its control of licenses of planes and pilots, wish to consider this specification.

2. Those engine builders who, desiring a higher compression aviation gasoline, have been influenced by the army air service and U. S. Army Specification No. 2-40-F, and insist on the use of this modified domestic aviation Grade B gasoline to which is added 2 to 3 c.c. of tetraethyl lead per gallon.

3. Those engine and aircraft builders who, being of the same mind as those in Group 2, desiring a higher compression aviation gasoline but feeling that aviation Ethyl Gasoline is the cause of deposits, corrosion and sticky valves, have found, like the Navy, that West Coast gasolines made to meet Navy Department Specification 7G1c Grade B, which calls

C. H. M'BURNEY HEADS CENTRAL GROUP ON AUTOMOTIVE TRANSPORTATION

By L. G. E. Bignell
Petroleum Engineering Editor

The Central Group of the Committee of Automotive Transportation of the American Petroleum Institute held its fall meeting in Tulsa starting Monday, September 1, and continuing through Tuesday and Wednesday. Labor Day was devoted to recreation at the Indian Hills Country Club.

The first business session was called for 10 a.m., September 2, by C. H. McBurney of the Transcontinental Oil Co., Tulsa, because of the absence of R. F. Fike, chairman, who was called to Peabody, Kans., by the death of his mother.

There were about 25 members present having come from Texas, Missouri and Kansas. J. W. Winchester, chairman of the marketing division of the Automotive Committee, stopped over on his way to New York City from a meeting of the Pacific Coast group of the A.P.I. Automotive Committee held in Los Angeles recently.

A letter from the California group brought up for discussion the matter of using meters for measuring products handled by truck and there seemed to be a difference in opinion that varied so greatly it was finally recommended the various groups, Eastern, Central and Pacific Coast, each appoint a committee of two to investigate this proposed innovation and report to the General Committee at Chicago in November.

The object is to secure information that will enable the individual members to judge the merits of the use of meters and something of the details of the various types available.

In California and in the Eastern states there seems to be a growing demand for the use of meters on trucks and in some other districts where the delivery of small lots of gasoline, less than 100 gallons, is necessary the meters offer a solution to a difficult problem.

F. A. Jones, Shell Petroleum Corp., St. Louis, Mo., and H. E. Spear, The Texas Company, Houston, Tex., made a brief report for their committee of route supervision and were reappointed for further study of this problem.

The economic problems of automobile bulk hauling came up for discussion and, reading the handwriting on the wall, several members urged that the Automotive Committee of the American Petroleum Institute take the initiative in advocating to the various state legislatures now giving consideration to this problem their recommendations based upon conservative requirements for the industry.

This course was recommended rather than a passive one as it is found that many types of large vehicles now using the roads are rapidly bringing about a condition that will result in adverse legislation in many states with the result that bulk hauling of petroleum products will be so limited in quantity it will be difficult to carry on this practice.

In Texas there was a law recently enacted that require some of the oil companies there to remove the second trailer on their trains and other states threaten similar laws that will make present equipment obsolete.

It is felt that proper instructions to drivers of bulk units in regard to road courtesy will do much to offset the resentment of drivers of other types of vehicles who find it difficult to pass these long trains and big units on the highways, and some companies have already established the practice of selecting special men for the handling of their bulk automobile trains and find the results obtained justify the added wages paid this type of driver.

A subcommittee was appointed to work with the General Committee in drawing up recommendations and it is the intention to get the individual companies to agree upon reasonable specifications so that a concerted front can be presented to the legislative committees considering these matters.

Election of the officers for the Central Group of the Committee of Automotive Transportation was held just before noon adjournment and C. H. McBurney, of the Transcontinental Oil Co., Tulsa, was unanimously elected chairman to succeed R. F. Fike, who has been made chairman of the national group for the Division of Production for the Automotive Committee.

Two vice chairmen were elected: S. C. Phillips of the Sinclair Oil & Gas Co., Tulsa, for the production group, and S. C. Bovell, of the Magnolia Refining Co., Dallas, Tex., for the marketing group.

The afternoon meeting discussed coordination of storage facilities with automobile distribution, advertising value of automobile equipment and aluminum tanks, and in the evening there was a banquet served at the Tulsa Club with a short talk by J. W. Winchester, chairman of the marketing division of the Automotive Committee.

for an antiknock compression ratio of 5.8:1 as determined on an N.A.C.A. Universal variable-compression engine, cooling water temperature 180° F., have an antiknock value equal to aviation Ethyl Gasoline.

4. This group, comprised of commercial concerns and engine builders, recommend Aviation Gasoline Domestic Grade, as does Group 1, plus 15 to 20 per cent benzol—this in order that the required antiknock value may be secured.

5. There is still another compromise method, which is the sponsoring of the Fighting Grade or the 329 endpoint aviation gasoline, offered not only because of its lighter weight per gallon than the domestic grade, but also because of its better antiknock value.

Analyzing the various specifications as required by the foregoing five groups, it will be seen that the first four have distillation range, color, doctor, acidity and sulphur requirements identically the same. Therefore, what has really caused this situation, complicated as it is, is a general desire but yet difference of opinion as to what method shall be adopted or dope used so that a suitable antiknock value may be arrived at. The lack of understanding as to just how far a universally distributed product could be raised in antiknock value without a price increase to airports of more than 3 to 5 cents per gallon over the U. S. Motor gasoline tank wagon price has added grief to the situation.

FINDLAY'S OIL PICNIC

FINDLAY, Ohio, Aug. 30.—Had the census of Findlay been taken last week, the old-time oil and gas town would have shown several thousand more people, as the oil workers and their families of the Ohio Oil Co., Illinois Pipe Line Co., and the Buckeye Pipe Line Co., held their annual picnic at Riverside Park. A picnic dinner at noon, a program of songs and athletic events were arranged for the day. This is an annual affair and always held in Findlay. Otto D. Donnell, president of the Ohio Oil Co., made a stirring speach that enthused the large gathering. John P. Sutton, Findlay, is president of the association.

LION SUPPLIES GAS

CHICAGO, Sept. 2.—Lion Oil Refining Co. has signed a contract with the United Gas Co. to supply the latter with entire natural gas output of the No. 1 McFadden well in Victoria County, Texas, recently brought in by Lion Oil Co., flowing 39,894,000 feet daily. United Gas will begin construction of a pipe line to connect with its 16-inch main 3 miles from the well.

TEXAS PRORATION PLAN MODIFIED AFTER HEARINGS BY COMMISSION

AUSTIN, Tex., Aug. 30.—The State Railroad Commission modified its order of August 14 after hearings on proration in various fields. The total allowable state production when the proration schedule has been made effective in all sections will be approximately 764,000 bbls., compared to an estimated production of 863,000 bbls. previously.

This amount, however, will not be adhered to until disputes in two or more fields have been settled and the Gulf Coast Field, by cessation of drilling, cuts production from 174,000 to 150,000 bbls. The coastal fields have been given 30 days to make this reduction without choking in present production.

Two proration plans to reduce production in the Panhandle area to 80,000 bbls. daily were argued before the Railroad Commission. The first proposed the elimination of 50-bbl. wells from proration. The second plan, proposed by Phillips Petroleum and other operators, would make the curtailment order applicable to all wells, regardless of production.

Panhandle Argument

J. H. Clark of the Mid-West Exploration Co., chairman of the Panhandle proration committee, said production in the field averaged 100,000 bbls. daily, from 1,778 wells, of which 1,308 wells were producing 50 bbls. or less a day. The total output of the smaller wells was less than 20 per cent of the total production of the field.

He said there was in steel storage 18,200,947 bbls. of oil on July 30, due to the inability to find an outlet, and that major pipe line companies were curtailing their nominations. Some operators, he said, had been forced to sacrifice their oil by shipping it out in tank cars and paying transportation costs.

The proration committee, he said, had arrived at the 50-bbl. well exemption on the theory that because of diverse conditions of fields in the Panhandle, some plan was needed, simple enough to spread the proration equitably without the necessity of making a separate plan for each field. The committee also worked on the theory, he said, that the curtailment burden should be borne by flush production.

Don Emery, attorney for the Phillips Petroleum Co., contended that the plan primarily would cause waste, although the statewide proration order was issued presumably to prevent waste. He cited the example of adjacent leases, on one of which the average well production was 50 bbls. or less, on the other above 50 bbls. The lease with the lower production would not be prorated. The other lease would be subject to proration above the 50-bbl. limit. This, he contended, would result in unequal withdrawal of oil as between the two leases, and he referred to testimony previously submitted to the commission that unequal withdrawal of oil caused underground waste.

The commission adopted the 25-bbl. limit.

By agreement of the parties interested the final determination of the amount to be allocated to the West Texas district is further deferred to give Reagan County operators an opportunity to work out, with the aid of the technical advisor selected for that purpose, a plan to control and curtail production of deep wells in the Big Lake Field, and until that problem is worked out the daily production in said district shall not exceed 276,350 bbls., distributed in accordance with proration orders now in effect, applicable to particular fields and allowing to Crane and Upton Counties 29,0000 bbls. per day, to be allocated to particular properties in accordance with a plan hereafter to be adopted and to other counties in said district on the basis of their present production as of August 16, 1930.

The daily production of the Southwest Texas district shall not exceed 97,150 bbls., to be allocated as follows: Darst Creek Field and Salt Flat Field in accordance with existing proration orders; Chapman Field in Williamson County, 9,000 bbls. apportioned ratably among the various producers in such field; and to the Laredo Field, 13,500 bbls. apportioned ratably among the producers; and to the other fields in said district not to exceed their production, respectively, as of August 16, 1930.

Gulf Coast Proration

In consideration of assurance given the commission by the local committees of operators in the Gulf Coast district that such operators will curtail production as rapidly and effectively as practicable by drilling only necessary wells, and other methods suggested in the reports of said committees on file, the limitation of daily production in said district of 150,500 bbls., imposed in the tentative order of August 14, 1930, is postponed for a period of 30 days from August 27, 1930, and in the meantime no producing property in said district shall exceed its present daily production as of August 16, 1930, provided that all new wells completed after the effective date of this order and all offsets thereto shall not be allowed to produce in excess of 500 bbls. of oil daily and that all flowing wells shall be properly equipped with tubing and minimum chokes to effect the maximum possible reduction in production consistent with safe operation and to control and restrict the production of all new wells and their offsets to the maximum of 500 bbls. of oil as herein specified.

The provisions of this paragraph do not apply to the Ray-McKinney Pool, the Cosden Pool, the Pettus townsite pool in Bee County, Texas, which will be controlled by special rules relating to the conservation of oil and gas in said pools and the report of the committee representing the area including said pool, which was submitted at the hearing of this commission in the above cause held August 25, 1930, was approved.

Marginal Wells

The following permanent rule defining marginal wells and exempting such wells from curtailment in the purchase of oil by any common purchaser electing to purchase oil in smaller quantities than the amount tendered it for purchase was adopted:

"Any producing property within this State having a daily per well production of 6 bbls. or less, averaged over the preceding 30 consecutive days, producing from a depth of 2,000 feet or less, shall be deemed to be a property producing only from marginal wells.

"Any producing property within this State having a daily per well production of 12 bbls. or less averaged over the preceding 30 consecutive days, producing from a horizon deeper than 2,000 feet and less than 3,500 feet, shall be deemed to be a property producing only from marginal wells.

"Any producing property in this State having a daily per well production of 20 bbls. or less, averaged over the preceding 30 consecutive days, producing from a horizon deeper than 3,500 feet shall be deemed to be a property producing only from marginal wells.

"Whenever any common purchaser of oil, as defined by law, within this State shall elect to purchase oil in smaller quantities than the amount tendered it for purchase and it becomes necessary for such common purchaser to prorate the amount of its purchases among the tenderers of such oil such common purchaser shall not prorate its purchases from properties producing only from marginal wells as herein defined, unless the total oil tendered it for purchase from properties producing from marginal wells and from all other properties treated and considered as though producing from marginal wells only exceeds the amount of oil which such common purchaser then elects to purchase, in which event all properties shall be considered to be marginal properties, and shall participate in the outlet in proportion to the number of producing oil wells thereon."

ARTHUR A. BEARD DIES SUDDENLY IN TULSA

Arthur A. Beard, former vice president and general manager of the Tidal Oil Co. and widely known drilling contractor and oil producer, died Monday in Tulsa after a brief illness. He was 50 years old.

Born in Decatur County, Indiana, Mr. Beard came to Oklahoma 20 years ago and for six years was connected with the Frank Phillips interests at Bartlesville. When the Tidal company purchased a large block of producing property from Phillips, Mr. Beard came to Tulsa as production superintendent for the Tidal.

A. A. Beard

He was later made vice president and general manager, retaining that position until May 1, 1929, when he resigned due to his physical condition. Immediately after his resignation he spent several weeks at his summer home at Bella Vista, Ark., and then returned to Tulsa and entered the drilling and producing business.

At the time of his death he was associated with Beard and Hammond, Inc., drilling contractors; Haskell, McCreery and Beard, Inc., oil producers; Beard and Elliott, oil well supply firm, and Arthur A. Beard, Inc., oil producers and drilling contractors.

Survivors are the widow; four daughters, Mrs. Pierce Laymon, of Tulsa; Mrs. Fred Klingensmith, Sapulpa, Okla.; Mrs. Paul Galbraith, Wewoka, Okla.; and Miss Maxine Beard, of Tulsa, and one son, William Joseph Beard, also of Tulsa.

Every Field . . .
needs its own special Ball and Seat . .

2 Hrs.

THAT'S NOT MUCH TIME—BUT WITHIN 2 HOURS AFTER YOUR ORDER IS RECEIVED, YOUR SUPPLY STORE CAN HAVE IT ON ITS WAY.

WE PUBLISH A CATALOG FOR YOUR CONVENIENCE — IT TELLS OF OTHER PUMPING SPECIALTIES YOU OUGHT TO KNOW. WRITE FOR IT.

—and there's a Nu-Alloy, Nu-Bronze or Nu-Steel Ball and Seat combination that will stand up in a way you've never dreamed of before. Because it will be a combination designed exactly for your own problems — lodestone, sand, corrosion or whatever it is. We are pioneers in specialized Balls and Seats. Precision manufacture—delivery right now. Down go costs and up goes satisfaction.

PETROLEUM EQUIPMENT CO.
of Texas, Incorporated
Plant & Office: Fort Worth. Jon R. Long, Mgr.

Survey of Equipment For Conformance to A.P.I. Specifications

By W. C. Shutts
Petroleum Engineer, Humble Oil & Refining Co., Houston, Tex.*

Although the producing companies are specifying A.P.I. equipment in part or entirely, very little inspection is done by the operators to determine whether supposedly A.P.I. equipment conforms to the A.P.I. standards. It is the writer's opinion that the majority of manufacturers are attempting to comply with the A.P.I. standards, although some equipment is represented as A.P.I. that does not conform to the specifications, and that some central inspection department would be advantageous to the manufacturer and the producer.

In order to obtain a general analysis and a representative opinion, information was solicited from 13 major operating companies of Texas, Louisiana and Arkansas. A survey was made of 12 supply companies, distributors and local manufacturers in and around Houston, inspecting the latest equipment available principally as to the marking of the equipment as per the A.P.I. specifications, checking general dimensions, and on some products a complete analysis was made.

Information from the various operators show that a few specify A.P.I. equipment entirely and the majority specify A.P.I. equipment with the exception of standards not fully developed. Such material as tubular goods, wire line sheaves, pumping equipment, wire rope, boilers and parts of rotary drilling equipment are specified A.P.I. throughout, while tanks, rotary tool joints, derricks and other items, although no objections are raised to the specifications, are not insisted on by some purchasers to be strictly A.P.I.

Very few operators are going into any great detail in inspecting A.P.I. equipment to determine if it meets the A.P.I. specifications. A few investigate as to the marking with the A.P.I. monogram but the majority do not inspect material at all. Those who do not inspect material at all, or only slightly, report no particular trouble of interchangeability. One operator reports trouble with sucker rods, specified and marked A.P.I., not being interchangeable. Those who have made more or less detailed inspections state that not all supposedly A.P.I. material conforms to the A.P.I. specifications.

The majority of operators considered are in favor of inspection of material to see that it meets the A.P.I. specifications, although a few operators state that they do not inspect material, have had no trouble, and think inspection as to the A.P.I. monogram is all that is necessary.

*Before Southwestern district, A.P.I. Division of Production, Galveston, Tex., Sept. 4, 1930.

OKLAHOMA REFINERS ADVANCE PRICES

(Continued from Page 36)

prices on gasoline and the other principal products were unjustified. When advances were made, however, the sellers were confronted with low prices coming from sources chiefly concerned in reducing inventories accumulated early in the year.

The Mid-Continent statistical situation up to August 1 is summarized in the accompanying table. More recent reports covering crude oil runs to stills, gasoline output and gasoline stocks as obtained by the American Petroleum Institute, show that the statistical situation continued to improve through August.

As in most of the other refining areas, Mid-Continent refiners are running less crude oil to their stills than they were a year ago. In this connection it is believed that crude runs to stills will be less in September than they were a year ago. At least five plants which were operating in August will be shut down over all or part of September. Some curtailment of runs may come from other companies who have been convinced of the futility of continuing summer operations through the fall months while gasoline consumption shows a gradual decline.

Gasoline production in the Mid-Continent is greater than it was a year ago due to the increased yields obtained from crude oil. Gasoline stocks as shown in the table were also greater. It is believed now that most of the weak spots in the gasoline situation are in a much better position than they were a month or two months ago and will cease to sell at the low prices quoted over the greater part of August.

The kerosene situation improved in July and if this improvement continued through August stocks on September 1 were about the same as last year with production substantially less than it was a year ago. Stocks decreased approximately 75,000 bbls. in July.

The production of fuel oil and gas oil in the Mid-Continent totaled 6,095,000 bbls. This compares with a production of 7,230,000 bbls. in July of last year. Stocks of these products on August 1 totaled 9,618,000 bbls. compared with 11,174,000 bbls. on the same date of the previous year.

Although there is little optimism in regard to the heavy fuel oils, the statistical situation is such that the product should take advantage of any improvement in the industrial demand provided the middle western refiners cease to dump large quantities on the Chicago market.

Gasoline and Naphtha

Apparently there was no specification U. S. Motor gasoline being quoted in Oklahoma on Tuesday under 6 cents. A few refiners the first of the month withdrew from the spot market and will await developments over the next few days before quoting either for immediate delivery or delivery over the month.

Less attention was being paid to prices on the higher gravities which are not active. Several refiners made the same advance in their 400 and 375 endpoint grade but other sellers had not changed their quotations. The 68-70 grades continue to be in fair demand. The naphtha movement is routine with 6 cents the low on a good grade of 50-52 450 endpoint.

Kerosene

The advance in kerosene came from the refiners who had been selling at the lowest prices. Several refiners have not sold any material under 3½ to 3¾ cents and they had not changed these quotations the first of the week. Many jobber buyers are more particular about the quality of kerosene than any other product purchased and for that reason they do not object to paying from one-quarter to one-half cent above the low of the market for a product that satisfies their customers.

The cheaper material appears to have been absorbed through the August purchases and with a fair demand in September the market should continue firm.

Distillate

The best grades of furnace oil are in demand both for spot shipment and on contracts. Buyers have found that the low cold test and low flash material is scarce at prevailing prices. The higher cold tests and other material which does not meet all the better specifications is still available at low prices.

This situation has helped to strengthen the gas oil market. Sales of 32-36 zero straw color gas oil were made last week at 2⅜ to 2½ cents. The industrial grades are still available at 2⅛ to 2¼ cents.

Natural Gasolines

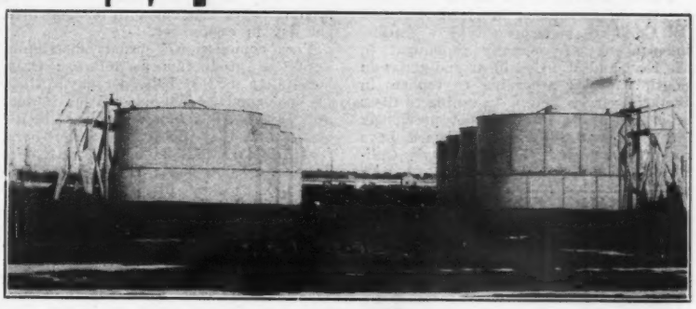
Natural gasolines were firm on Tuesday at last week's prices. Many sales have already been made for September delivery. The going price on all grades was 5½ cents. Manufacturers are closely watching developments in the refinery market and if the higher prices are maintained a strong natural market is anticipated throughout the month.

Lubs and Wax

The market on lubricants is still classed as weak, covering the sale of finished motor oils as well as the several grades of cylinder stocks and neutral oils. Jobbers are being quoted over a wide range in price.

Wax prices again reflect weakness. The general market on the 124-126 grade is 1¾ to 2¼ cents.

Eight 1000-Bbl. Maloneys in Oklahoma City field. Erected by Maloney Sales Corp., distributer.



MALONEY *Vapor-Pressure* Tanks are 12-gauge Throughout

—or Heavier if Desired

The construction of our *Vapor-Pressure* flow and stock tanks includes 12-gauge (or heavier) sheets throughout, half-inch bolts, heavy 2x2 angle reinforcements and ties, and wide gussets on ties and ladders. This construction insures ample strength for operation under sufficient pressures to prevent breathing.

These tanks are equipped with efficient combination valves set at 16 ounces pressure and 2 ounces vacuum. Coated with high-grade aluminum paint.

"Alone in Quality"

Maloney A. P. I. Bolted Steel Tanks conform with A.P.I. dimensional standards and carry the official A. P. I. monogram.

MALONEY TANK MFG. CO.
Tulsa, Okla., U.S.A.

Distributers at All Principal Petroleum Points

MADE OF AMERICAN

MALONEY PATENTED BOLTED COPPER-STEEL TANKS

MALONEY ALONE

Mexican Seaboard Co. May Be Acquired by Large Independent

NEW YORK, Sept. 2.—Negotiations for the acquisition of Mexican Seaboard Oil Co. have been opened by a leading independent oil company prominent in the East and Mid-Continent and active in South America according to reports in financial circles here. According to these reports banking interests not previously identified with Mexican Seaboard have recently surveyed that company's Cali-

John M. Lovejoy

fornia properties located at Kettleman Hills and in the Buttonwillow Field and a representative of these banking interests will shortly assume an important executive post with Mexican Seaboard company. Acquisition of Mexican Seaboard by the eastern company will round out that concern's business, giving it a production on the Pacific Coast that will form the western nucleus for a possible future expansion on a national scale comparable to that of a number of other leading oil units which are developing production, refining and marketing on a national basis.

Rumors here mention the name of John M. Lovejoy as a possible head of the new Mexican Seaboard organization.

Late Fields

(Continued from Page 48)

Oil Co., Barnsdall Oil Co., Atlantic Oil Producing Co., and Slick, Pryor & Lockhart.

Two more gas wells were added to the Wyandotte County gas field, near Kansas City. Both were drilled by a syndicate which has completed 27 tests since July 5, of which 22 were producing gas wells. One of the new wells had an estimated production of 1,500,000 feet of gas from the 600-foot level and the other has an estimated flow of 2,500,000 feet of gas from the 460-foot level.

W. C. McBride, Inc.'s No. 1 Becker, in Section 36-20-2w, a semiwildcat test, had water in the Wilcox sand and was shut down. The test had the Viola lime at 3,452 feet, and the Wilcox sand at 3,487 feet and was drilled to a total depth of 3,541 feet, where it may be abandoned.

The twelfth oil well completed in the Eastborough Pool in Sedgwick County, swabbed 1,565 bbls. the first 24 hours. It averaged 65 bbls. an hour. The new well is the second Simpson sand producer in the pool. It is the Derby Oil Co.'s No. 1 Rimel, NW cor. NE NE, Section 30-27-2. Production is coming from sand at 3,335-38 feet. The first 9½ hours it swabbed 457 bbls.

WEST TEXAS

FORT WORTH, Tex., Sept. 2.—Magnolia Petroleum Co.'s No. 1 Kelly Chalk, in the NE cor. NW, Section 24, Block 9, W.&N.W. Survey, Howard County, in the heart of the shallow production on the east side of the pool, picked up a deep lime pay at 2,885 feet and is shut down at 2,090 feet with a hole full of oil.

Southern Crude Oil Purchasing Co.'s No. 1 Cowden, in the NW Section 26, Block 43, northern Ector County, West Texas, picked up another gas increase from 4,068-91 feet making an estimated 500,000 feet. It formerly had about 40,000 feet from 4,036-40 feet and a showing of oil from 4,063-65 feet.

GULF COAST

HOUSTON, Tex., Sept. 2.—Yount Lee Oil Co.'s No. 3 Moores Bluff, Esperson Field, western Liberty County, blew in late Tuesday estimated making 60,000,000 feet of dry gas daily from sandy shale at a total depth of 7,569 feet. This is the deepest well drilled in the Esperson area and is the most southeasterly location, being 550 feet to the south and east of the discovery well. This well passed up the oil producing horizons found in the discovery well at 3,320 feet.

Shell Petroleum Corp.'s No. 4 Blakely, Danbury Dome, Brazoria County, tested salt water at 1,852 feet and has been abandoned. This is the fourth test on the dome, all of which so far have proved failures.

NEW DIRECTOR FOR INDIAN

George D'Utassey has been elected vice president and a director of the Indian Refining Co. He takes the place of the late H. C. Smiters on the board of directors.

V.O.C. OUTPUT

NEW YORK, Sept. 2.—Venezuelan Oil Concessions, Ltd., produced during the week ended August 23, a total of 112,722 metric tons of crude oil in Venezuela. This was a daily average of 16,103 metric tons, and compared with 117,805 metric tons, or 16,829 metric tons daily, in the previous week.

550,000-BBL. PRODUCTION LIMIT IN OKLAHOMA EXTENDED ONE MONTH

The Oklahoma Corporation Commission made an order August 30 limiting production in Oklahoma to 550,000 bbls. per day in September.

The commission's order distributes permitted production as follows: Oklahoma City, 88,903 bbls. per day; Allen, (Wilcox sand), 4,500 bbls.; Allen (Cromwell sand), 8,964 bbls.; Bowlegs, 14,164 bbls.; Carr City, 5,247 bbls.; Earlsboro, (old field), 14,332 bbls.; Earlsboro Townsite, 5,000 bbls.; Little River, 23,264 bbls.; East Little River, 11,000 bbls.; Marshall-Lovell, 2,825 bbls.; Maud, 2,856 bbls.; Mission, 7,337 bbls.; Sasakwa, 4,750 bbls.; Searight, 6,602 bbls.; Seminole City, 14,235 bbls.; East Seminole, 19,486 bbls. In all the above mentioned pools from Allen to St. Louis, inclusive, the permitted production represents 50 per cent of potential. East Earlsboro is curtailed to 15,000 bbls., and South Earlsboro to 8,750 bbls., or 25 per cent of its potential. West Asher is accorded a production of 6,563 bbls., and Konawa 12,750 bbls., or 18¾ per cent of their respective potentials. Tatums, Carter County, is held down to 2,500 bbls.; Chandler, Lincoln County, 2,500 bbls.; West Perry, Noble County, 600 bbls.; Orlando, Payne County, 400 bbls., and Township 20n-4w, Garfield County, to 400 bbls.

The old fields of the State are not prorated and they will be permitted to produce 260,000 bbls., which together with 5,000 bbls. from wells in prorated area that are not prorated, brings the total up to 550,000 bbls., out of an estimated potential of 1,481,118 bbls.

The results of the hearing before the Corporation Commission culminated a week of interesting developments. C. C. Julian, whose company owns two new wells in the Oklahoma City Field, was granted a Supreme Court writ of prohibition restraining the State Corporation Commission from taking jurisdiction over the Julian oil leases and property and the hearing on the writ was set for Tuesday, September 2.

About the middle of the week an attempt was made to lower the quantity of oil produced in Oklahoma to about 500,000 bbls. a day, as some of the purchasing companies desired to further cut their pipe line runs because of the increased curtailment of crude runs to refinery stills. It was decided to go before the commission without changing the 550,000-bbl. figure which had already been decided as the quantity the pipe lines could dispose of to refiners.

It was reported that the Julian suit might interfere with the Corporation Commission's hearing, but the court decided not to interfere with the hearing so far as it concerned the producers who desired crude production curtailment.

Opposition to the issuance of the curtailment order developed at the meeting. Horace G. McKeever of Enid, attorney for the Champlin Refining Co., and Ed Butterfield, a royalty owner in Oklahoma County, protested against the issuance of the curtailment order, Mr. Butterfield asking that it be made for a period of 15 days instead of the whole month.

The representatives of the operators in all the fields in which curtailment was sought presented testimony showing that the pipe lines could not dispose of any more than 550,000 bbls. a day. Any production in excess of that figure would have to be stored and no company will store oil under present conditions of overproduction, according to the testimony.

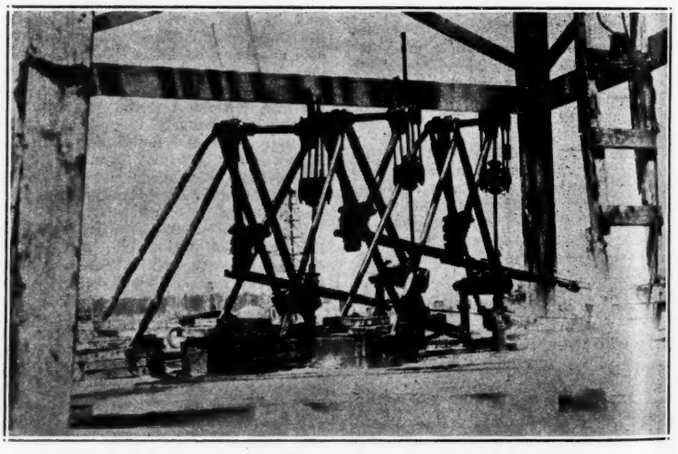
MANAGING DISTRICT FOR LION OIL REFINING CO.

Jack Watt, who has had extensive experience in the oil fields of West Texas, New Mexico, Arkansas and Mississippi and recently has been representing the

Jack Watt

Lion Oil Refining Co. in Southwest Texas, is now in Midland, Tex., as district manager for that company. Mr. Watt formerly was in charge of production for the Henshaw Oil Corp. in Howard County and before that he served as scout and land man for various companies.

THREE WELLS DRILLED AND PUMPED FROM SAME DERRICK FLOOR IN TEXAS



HOUSTON, Tex., Sept. 1.—The problem of developing a series of shallow sand horizons at Saratoga with a minimum amount of derrick building and rigging up has been solved by the Rio Bravo Oil Co. by the drilling of several wells to different sands from the same derrick floor. Frequently as many as three wells are drilled with but one set up, simply by skidding the rotary 3 or 4 feet and making the proper adjustments in the drive.

In the accompanying picture are shown three wells pumping from the same derrick floor. These are Nos. 84, 84-A and 84-B, all on the J. F. Cotton fee tract. No. 84 was completed in a sand at 1,041 feet pumping 14 bbls.; No. 84-A is in a sand at 564 feet pumping 20 bbls., and No. 84-B is at 167, pumping 4 bbls.

As a number of different sand horizons in the same are are being developed simultaneously, this practice is very advantageous for several reasons. The expense of providing a derrick for each sand horizon drilled is eliminated as well as the labor cost for rigging up on two or three separate locations. In addition considerable time is saved which ordinarily would be required in building new derricks and skidding rigs.

The fact that all the sands are shallow makes this possible. At these depths there are no particular hazards from crooked holes, and in pumping there is no greater difficulty than if jacks were set up on different derrick floors.

COLON PRODUCTION

NEW YORK, Sept. 2.—Colon Development Co., Venezuelan operating subsidiary of the Colon Oil Corp., produced during the week ended August 22 a total of 98,330 bbls. of crude oil, an average of 14,047 bbls. daily. Production for the preceding week was 96,962 bbls., or 13,852 bbls. per day.

Beyond the Shadow
Hammer, hacksaw and microscope show why Ludlow Valves are more economical—they cost least per year; valve service records prove it—beyond the shadow of a doubt.
The LUDLOW VALVE
Manufacturing Co.
TRADE MARK
TROY N.Y.
3511

Of Interest to Sales Departments

New Jersey Company Explains Policies Covering Tire Sales

NEW YORK, Aug. 30.—Imperial Oil Co., Ltd., Humble Oil & Refining Co. and Standard Oil Co. of Louisiana, all subsidiaries of Standard Oil Co. of New Jersey, will shortly undertake the marketing of tires at their retail stations, it is announced here.

Announcing plans for extending its retail tire sales, the Jersey company says:

"After a thorough trial of more than a year in the territory of the Colonial Beacon Oil Co., Inc., and a shorter test by the Standard Oil Co. of Pennsylvania, the sale of Atlas tires and tubes was inaugurated early this month at all owned and authorized dealer service stations of the Standard Oil Co. of New Jersey. Preparations are now under way to extend the new service through the marketing fields of the Imperial Oil Co., Ltd., Humble Oil & Refining Co. and Standard Oil Co. of Louisiana, and actual sales are being contemplated by the last named subsidiary within a month.

"In January, 1929, when control of the Beacon was acquired by the Standard Oil Co. (New Jersey), the former was already considering the advisability of selling tires and tubes in New York and New England on much the same basis as other subsidiaries today. Although it had always been the policy of the New Jersey company to confine sales at its own service stations to gasoline and lubricants, it was decided that the Beacon should proceed with its experiment.

"The experience of Colonial Beacon over the following 15 months developed two interesting facts:

"First, judging from sales records and the comments of users, that the marketing of high grade tires and tubes at service stations was a new convenience quite evidently welcomed and appreciated by the public.

"Secondly, that the new product was proving a very definite help to the company's dealers in their tire business.

"In the past, the dealer labored under an appreciable handicap in his sales of automobile tires because of competition from mail order houses which he was powerless to meet. Naturally, these agencies, because of the volume of their purchases, were in a position to offer tires direct to the consumer at lower prices than could the dealer. This handicap the company found itself able to lessen considerably.

"Between them, these two factors brought out by the experience of Colonial Beacon, and later by that of the Pennsylvania company, led other subsidiaries of the Standard Oil Co. (New Jersey) to the conclusion that their marketing facilities afforded a logical medium for the sale of automobile tires and tubes, and that the inauguration of the new service would prove to be an added convenience to the motoring public and an aid to the dealer.

Price Policy

"It was no part of the company's purpose to affect the price structure of the tire inudstry, or force tire business out of any of the existing channels of distribution, and this is in part borne out by its marketing policy. The company has endeavored to maintain itself in a competitive position, taking a place between the price of standard brands of tires, on the one hand, and mail order tires on the other.

"It is a well-established principle that the individual dealer's properity is reflected directly in the business of the company whose products he sells, and the inclusion of commission retail stations as well as 100 per cent dealers and compayn-owned service stations in the tire arrangement is intended to give the independent dealer handling "Standard" products a further legitimate advantage to strengthen his business.

"As in the case of Colonial Beacon and the Standard Oil Co. of Pennsylvania, tires and tubes will continue to be supplied by various leading manufacturers under contracts specifying quality and construction, and will be marketed under the brand name, 'Atlas.' Furthermore, in order to assure the buyer that the product he is getting has the full backing of the oil company itself, the Standard Oil Co. of New Jersey covers every tire with its own guarantee. The same is true of other subsidiaries handling the product.

"This guarantee is exceptionally broad, covering several causes of injury for which the motorist himself may be responsible, and is in addition to the regular manufacturer's warranty against defective workmanship or materials. It extends for one year in the case of tires for passenger cars, and for six months where tires are used in commercial service, taxicabs and buses excluded.

"The guarantee includes damage from accidents, rim cuts, bruises, cuts, blowouts, underinflation, faulty brakes or wheel alignment, or any road hazards. When damaged under the guarantee, the company agrees to repair the tire at its own expense or, at its option, to replace it with a new one at a cost to the buyer of one-twelfth the current retail price for each month of service which the damaged tire has received. In the case of commercial vehicles, the price is one-sixth for each month of use.

"The Atlas tire itself is a heavy-ribbed, deep-cut, black tread product, built of the best quality materials on the recently developed 'center-traction' principle of balloon tire construction. It is designed in such a way that the tread holds the pavement even harder than the brake bands grip the drums, so that the possibility of brakes locking and the car skidding, even on wet streets, becomes greatly minimized."

SINCLAIR OPERATING FLOATING SERVICE STATION AT CHICAGO

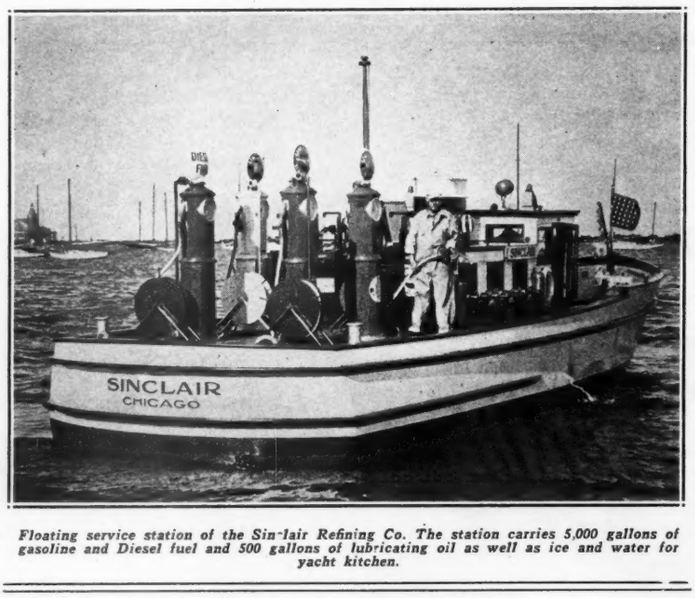
Increased interest in yachting and power boating on the Great Lakes is responsible for Chicago's first "floating service station," a supply boat commissioned by the Sinclair Refining Co., of which Sheldon Clark, prominent sportsman and former commodore of the Chicago Yacht Club, is vice president.

The vessel rests at anchor in the Chicago harbor off Grant Park, making daily rounds of the various harbors along Chicago's lake front and offering full service to yachts and power boats, as well as hydroplanes. It carries aircraft, high compression and regular gasoline, Diesel fuel, Sinclair motor oils, kerosene, a supply of ice, and virtually every commodity used on yachts and power boats.

Regular telephone service with the marine department of the Sinclair offices is maintained so that yachtsmen can telephone their orders and have their vessels serviced at any point along the lake front. At the same time, each vessel in Chicago water will be equipped with a special signal flag which can be hoisted to notify the supply ship that service is required. Thus, the signal flag will be used much as an ice card is used in front windows on land.

The ship is driven by a four-cylinder Diesel engine of 70 horsepower.

"This boat was built," Mr. Clark explained, "especially for the Chicago harbor due to the increase of power boating in this area. We are planning to use it here every summer, taking it into southern waters only during those months when the lake is closed to boating. It will be known as the S.S. Sinclair and will carry the Sinclair house flag—white 'S' on a green field."



Floating service station of the Sinclair Refining Co. The station carries 5,000 gallons of gasoline and Diesel fuel and 500 gallons of lubricating oil as well as ice and water for yacht kitchen.

SELL CUT PRICE GASOLINE

CHICAGO, Aug. 30.—As a means of combating the cut price evil in certain parts of the city, the dealers have introduced a third pump carrying a brand of gasoline to be sold at a price which will compete with the cut price stations.

The companies will continue to push the sale of their regular and premium grades of gasoline but the lower priced grade will be available to those who are in the habit of buying from cut price stations.

TEST ALUMINUM ALLOY TANKS ON SEPTEMBER 5

NEW YORK, Aug. 30.—Aluminum alloy tanks, designed for use in transporting gasoline and other flammable liquids by motor truck, will be given exhaustive tests at New Kensington, Pa., on Friday, September 5 under the joint sponsorship of the National Fire Protection Association Committee on Flammable Liquids, the Aluminum Co. of America and the American Petroleum Institute subcommittee on testing aluminum alloy for tank truck tanks. The tests will be made by experts of the Aluminum company.

Members of the Institute's regional groups on automotive transportation, the National Protection Association's committee on flammable liquids and others interested have been invited to attend. Those planning to be present have been asked to notify Frank D. Goll, Aluminum Co. of America, New Kensington, Pa., who will arrange for transportation between Pittsburgh and New Kensington, and D. V. Stroop, of the Institute staff, who will inform them regarding final arrangements.

The program calls for pressure, drop and fire tests. A narrative account will be prepared, complete with still and motion pictures, charts, tables of data and conclusions.

CONSIDER CANADIAN REFINERY

CHATHAM, Ontario, Aug. 30.—At a meeting of Wainwright leaseholders and operators held recently at Edmonton, plans were discussed for the construction in the Wainwright Field of the first unit of a refining plant especially designed to handle the Wainwright heavy crude. An initial outlay of $50,000 is contemplated. Preliminary negotiations with a large refining company have been carried on by John L. Daugherty, who is interested in several of the Wainwright companies. The backers of the refinery project agreed to build the first unit conditional on Wainwright operators and leaseholders signing up all actual and potential production for a five-year period.

Mr. Daugherty and E. T. Malden, chairman of the oil section of the Edmonton Chamber of Commerce, were delegated to select a committee of five to handle the project. Development of the field has been handicapped by lack of refining facilities for the heavy crude. The refining interests concerned in the present project are understood to be advancing a considerable sum to put the wells in shape, this to be repaid out of production. The company will start operations with estimated deliveries of 400 bbls. a day from seven producing wells.

CURE TOBACCO WITH OIL

NEW YORK, Aug. 30.—Southern tobacco growers are using fuel oil in tobacco curing operations in place of the older methods of curing, according to the Raleigh, N. C., Times, which says:

"It will cost less to equip curing barns with the new apparatus than with the old wood and coal furnaces and flues. Cost of operation, it is claimed, will be considerably less. Time will be reduced at least 25 per cent, resulting in a material labor saving. And, according to those who watched a recent demnostration near here, tobacco emerges from the curing barn much brighter of color and better of texture than under the old method.

"Thermostats control the heat. In the recent demonstration a curing was completed in 82 hours and the temperature fluctuated only two points, due to a storm. There is less fire risk than under the coal and wood method."

WILDCAT OPERATIONS IN LOUISIANA-ARKANSAS

(Continued from Page 107)

J. P. Evans et al's No. 1 Crichton Co., NE cor. NW NE, Sec. 31-18-8 ..... D. S. test 1,757 ft. dry; coring 1,813 ft.

ARKANSAS

CHICOT COUNTY

H. R. Smith's No. 1 Lytle, 660 ft. N, 660 ft. E, C, Sec. 31-18-3 ..... Rig up.

CLEBURNE COUNTY

Cosden Oil Co. of Ark.'s No. 1 Donophan, 100 ft. S, 660 ft. E, NW cor. SW SE, Sec. 19-9-10 ..... Arranging to set 8¼-in. 3,875 ft.
Donnelly-Craver et al's No. 1 Donophan Lbr. Co., SE cor. NW, Sec. 39-11-9 ..... Fishing bailer; T.D. 2,870 ft.

COLUMBIA COUNTY

S. Y. Dorfman et al's No. 1 Merritt, 923 ft. S, 160 ft. W, NE cor. SE NW, Sec. 25-19-22 ..... Cmtd. 12½-in. 165 ft.; drlg. 650 ft.

FRANKLIN COUNTY

Red Bank Oil Co.'s No. 1 Edtin, SW cor., Sec. 33-10-26... Arranging to cmt. 6⅝-in. 3,759 ft.

GARLAND COUNTY

Givens et al's No. 1 Garrett, 660 ft. S, 660 ft. W, C, Sec. 1-3-19 ..... Waiting on bailing line; T.D. 3,790 ft.

HOT SPRINGS COUNTY

Anisman et al's No. 1 Hinson est., NE NE, Sec. 19-4-16... U.R. 8-in. csg. 805 ft.
J. R. Lockhart's No. 1 Cunningham, 285 ft. S, 285 ft. W, NE cor., Sec. 11-5-16 (reported in Grant County in error) ..... Derrick.

LAFAYETTE COUNTY

Crawford Drlg. Co.'s No. 1 Vaughn, 200 ft. S, 200 ft. W, NE cor. SE NE, Sec. 25-19-25 ..... Rig up.

LINCOLN COUNTY

B. F. Thompson, trustee's No. 1 McGhee, 330 ft. S, 150 ft. W, C, Sec. 8-8-7 ..... Rigging up.

LITTLE RIVER COUNTY

A. L. Buck's No. 1 Greason, NW NW, Sec. 25-12-32 ..... S.D. 2,502 ft.

LOGAN COUNTY

J. H. Flowers' No. 1 J. H. White, Sec. 13-6-26 ..... U.R. 5 3/16-in. 3,570 ft.; T.D. 3,610 ft.

MADISON COUNTY

J. W. Baxter's No. 1 Hallem, C NE SW, Sec. 17-16-26.... S.D. 540 ft.

MILLER COUNTY

Big Bill Oil Co.'s No. 1 Dean, 200 ft. N, 200 ft. E, SW cor. NW SW, Sec. 30-15-25 ..... Rig up.
E. & F. Oil Co.'s No. 1 E. L. Beck, 200 ft. S, 200 ft. E, NW cor. SW, Sec. 36-15-26 ..... Rig up.
Lentz et al's No. 1 Dale, 300 ft. S, 300 ft. E, NW cor., Sec. 25-15-26 ..... O.W.D.D.; arranging to deepen; T.D. 2,842 ft.

OUACHITA COUNTY

Anderson & Wimmer's No. 1 Buck, Sec. 7-15-7 ..... Sidetracking D.S.; T.D. 2,735 ft.
Belmont et al's No. 1 Buck, SE cor. SE SW, Sec. 16-15-17. Drlg. 900 ft.
A. B. Turner, trustee's No. 1 Dave Brown, 220 ft. N, 220 ft. E, SW cor., Sec. 23-15-18 ..... Began drlg. Aug. 19; cmtd. 10-in. 103 ft.

PIKE COUNTY

E. R. Henderson's No. 1 Tilyou, 660 ft. W, 500 ft. S, NE cor. NE SE, Sec. 26-8-14 ..... Location.

POPE COUNTY

Cosden Oil Co.'s No. 1 Mo. Pac. R.R., 660 ft. N, 660 ft. E, SW cor. NW SE, Sec. 13-9-19 ..... Drlg. hard sand 4,864 ft.

SCOTT COUNTY

Heavener O. & G. Co.'s No. 1 Riser, Sec. 36-4-26 ..... Straightening hole; T.D. 1,530 ft.

SEBASTIAN COUNTY

W. M. Greeson's No. 1 Spears, Sec. 9-7-29 ..... Tested S.W. 3,515 ft.; W.O.
Mansfield Gas Co.'s No. 14 Fee, Lot 10, Sec. 1-4-31..... Drlg. 1,015 ft.
Ozark Nat. Gas Co.'s No. 10 Weaver, 660 ft. N, 660 ft. W, SE cor. SE NE, Sec. 27-8-30 ..... Straightening hole; T.D. 2,640 ft.
Ozark Nat. Gas Co.'s No. 1 Bates, C SE NW, Sec. 28-8-30. Began drlg. Aug. 20; drlg.

UNION COUNTY

S. B. Hickman's No. 1 Hogg, 330 ft. S, 150 ft. E, NW cor. SE SE, Sec. 35-16-17 ..... Dry 1,987-2,079 ft.; fish. 2,157 ft.
Marine Oil Co.'s No. 2-B Thompson, Sec. 10-18-13 ..... Location.
Marine Oil Co.'s No. 1-F Winn, Sec. 10-18-13 ..... Began drlg. Aug. 21; cmtd. 10-in. 312 ft; drlg. 767 ft.

Modisette Drlg. Co.'s No. 4 Union Sawmill, 330 ft. W, 300 ft. N, SE cor., Sec. 14-18-14 ..... Location.

VAN BUREN COUNTY

Glenn Kohle et al, trustee's No. 1 Scalan, 200 ft. S, 200 ft. W, NE cor. SE NW, Sec. 5-19-13 ..... S.D. 50 ft.

WASHINGTON COUNTY

Delbert & Graves' No. 1 Cunningham, Sec. 14-15-32..... S.D.; W.O. 602 ft.
C. H. Willoughby's No. 1 Jones, Sec. 34-16-30 ..... S.D.; W.O. 1,650 ft.
Lincoln Leaseholding Synd.'s No. 1 Lincoln, Sec. 30-15-32 U.R. 8-in. to T.D. 1,500 ft.
H. H. Taylor et al's No. 1 Runny, C NE SW, Sec. 7-17-19. S.D. for wtr. 700 ft.

YELL COUNTY

Tegmeier & Luckett's No. 1 Falcon, Sec. 36-7-21..... Sidetracking 5 3/16-in. 4,120 ft.; T.D. 4,160 ft.

EAST TEXAS

BOWIE COUNTY

Joe Burnham et al's No. 1 G. W. Burnett, 150 ft. W, 400 ft. S. NE cor. G. W. Burnett 76 ac., in W. H. Janes Sur. ..... Rig up.
Lee Timberlake's No. 1 Tidwell, 2,800 ft. N, 300 ft. W, SE cor., Jos. Eskell Sur. ..... Arranging D.S. test 2,585-2,610 ft.

CAMP COUNTY

McDonald Bros.' No. 1 Tillery, 150 ft. E, 450 ft. S, NW cor. 127-ac. tract, in J. H. Murphy Sur. ..... Location.
Rogers et al's No. 1 Enfelt, R. M. Montgomery Sur..... T.A. 3,045 ft.

CASS COUNTY

Phillips Pet. Co.'s No. 1 J. R. Olds, 300 ft. N, 170 ft. E, SW cor., J. A. Stephenson Sur. ..... Rig up.

MARION COUNTY

W. D. Chew's No. 1 Fee, 2,350 ft. W, 1,275 ft. N, SE cor., W. J. Hamilton Sur. ..... Cmtd. 6-in. 2,270 ft; S.D; T.D. 2,532 ft.
P. E. Hussey's No. 1 A. A. Trammell, Chas. Lockhart Sur. ..... S.D. wtr. 1,334 ft.

RED RIVER COUNTY

D. M. Buffington's No. 1 Hossler, E. Hughhart Sur. ..... S.D. 2,865 ft.
Johnson Pet. Co.'s No. 2 Randolph, Edw. Dean Sur..... Swedging; 2 jts. collapsed 8-in.; arranging to cement 6⅝-in. and packer 2,182 ft.

SABINE COUNTY

Benedum & Trees Oil Co.'s No. 1 Nona Mills Lbr. Co., Jas. Mason Sur. ..... Began drlg. Aug. 10; cmtd. 12½-in. 127 ft; drlg. 2,784 ft.

SHELBY COUNTY

Chapperall Oil Co.'s No. 2 Holt, Matthew Moore Sur..... Coring hard lime 5,350 ft.
G. R. Ridgeway's No. 1 G. D. Parker, 4,980 ft. W, 750 ft. N, SE cor., Jessie McKelvey Sur. ..... Derrick.

MISSISSIPPI

ADAMS COUNTY

A. C. Glassell et al's No. 1 Artonish, 75 ft. S, 75 ft. W, NE cor., Sec. 29-8n-2w ..... Coring 1,000 ft.

ALCORN COUNTY

Alcorn Pet. Co.'s No. 1 Matthews, SE cor., Sec. 14-2s-7e.. Fishing 6-in. and tools 2,392 ft.; T.D. 2,735 ft.

CHICKASAW COUNTY

Hightower & Golson's No. 1 Flemming, NE cor., Sec. 20-13-3 ..... Fishing 8¼-in. csg. 1,414 ft.

HINDS COUNTY

Big Block Oil Co.'s No. 1 Southern Christian Institute, C N½ NE, Sec. 30-6-4 ..... S.D. 1,910 ft.

Dome Oil Co.'s No. 1 Elton, NE cor. SE SW, Sec. 5-4-1e.. Plugging back to test gas shows at 1,334 ft. and 818 ft.; T.D. 2,807 ft.
Feazel O. & G. Co.'s No. 1 Millstein, NW cor. NW NW, Sec. 2-5-1e ..... Cmtd. 6⅝-in. 2,404 ft.
Gulf Ref. Co.'s No. 1 City of Jackson, 2,423 ft. N, 731 ft. W, SE cor., Sec. 10-5-1e ..... Began drlg. Aug. 23; cmtd. 15⅛-in. 80 ft.
Gulf Ref. Co.'s No. 1 Crane, 660 ft. S, 660 ft. W, NE cor., Sec. 26-6-1e ..... Cmtd. 12½-in. 802 ft.
Interior Oil Co.'s No. 1 Belhaven Heights, 1,165 ft. W, 614 ft. S, NE cor., Sec. 2-5-1e ..... Derrick.
Jackson Oil Co.'s No. 1 Central Cotton Oil Co., NW cor. SW NW, Sec. 3-5-1e ..... Rig up.
Jackson O. & G. Co.'s No. 1 Capital Land & Inv. Co., Sec. 29-6-1e ..... Drlg. 2,179 ft.
Jackson O. & G. Co.'s No. 2 Mays, SW cor. SE NE, Sec. 2-5-1e ..... S.D; W.O. 2,737 ft.
Dr. Barney Kennedy's No. 1 Fee, 150 ft. E, 200 ft. N, SW cor. NE NE, Sec. 34-6-1e ..... Location.
Lefleur O. & G. Co.'s No. 1 Chadwick-Brown, 550 ft. S, 780 ft. W, NE cor. SW NW, Sec. 11-5-1e ..... Derrick.
Cleve Love et al's No. 1 Ridgeway-McGee, 100 ft. W, 500 ft. S, C, Sec. 2-5-1e ..... Began drlg. Aug. 23; drlg.
Love Pet. Co.'s No. 1 Crisler, 65 ft. W, 360 ft. S, NE cor. NW SW, Sec. 2-5-1e..... Rig up.
Love Pet. Co.'s No. 1 Morton Lbr. Co., 100 ft. W, 200 ft. N, SE cor. SW SW, Sec. 34-6-1e..... Location.
Love Pet. Co.'s No. 1 Dreyfus, Sec. 2-5-1e ..... (No check); began drlg. Aug. 9; drlg. 1,670 ft.
Miss. Pet. Co.'s No. 1 Baptist Orphanage, 175 ft. E, 130 ft. N, SW cor. SE SE, Sec. 28-6-1e ..... Location.
Miss. Pet. Co.'s No. 1 Solvent Investment Co., NE cor. NE SW SW, Sec. 14-5-1w ..... Derrick.
Miss-Tex Oil Co.'s No. 1 Negro Fair Assn., SW cor. NW SE, Sec. 28-6-1e ..... Began drlg. Aug. 23; cmtd. 10-in. 86 ft.
Mrs. Reeder et al's No. 1 State, SE cor. NW NW, Sec. 25-6-1e ..... W.O.; T.D. 2,905 ft.
Tri-State O. & G. Co.'s No. 1 Wilson, SW cor. SE NE, Sec. 23-6-1e ..... Derrick.
J. A. Weir et al's No. 1 Holliday & Ross, NW SE, Sec. 8-6-2e ..... S.D; W.O. 2,653 ft.
Universal Gas Co.'s No. 1 Sharbrough, SW cor. SE, Sec. 28-6-1e ..... Began drlg. July 29; S.D.; W.O. 88 ft.

HUMPHRIES COUNTY

E. S. Steele et al's No. 1 C. B. Box, SE cor. SE NE, Sec. 25-14-4w ..... Set 12½-in. 60 ft.; S.D.

LAUDERDALE COUNTY

Lauderdale O. & G. Co.'s No. 1 Lackey, 990 ft. S and E, NW cor. NE, Sec. 2-7-16 ..... Tested S.W. 3,252 ft.; S.D. 3,420 ft.
Meridian O. & G. Co.'s No. 1 Hauser, Sec. 33-8-18..... S.D.; W.O.; sandy shale 2,826 ft.
J. R. Smith Oil Co.'s No. 1 C. F. Craig, Sec. 2-16-14 ..... Derrick.

LAFAYETTE COUNTY

Banks-Goode et al's No. 1 May, 113½ rds. S, 26 rds. E, NW cor. SW, Sec. 22-10-1w ..... Derrick.

LINCOLN COUNTY

Lincoln O. & G. Co.'s No. 1 Pat Case, NE cor. NE, Sec. 21-3-6 ..... S.D.; W.O. 2,231 ft.

MADISON COUNTY

Barney Kennedy et al's No. 1 Raymond, 300 ft. E, 1,800 ft. N, SW cor., Sec. 32-7-2e ..... S.D; waiting for 12½-in. 705 ft.

MONROE COUNTY

Amory Dev. Co.'s No. 1 Bourland, Sec. 2-13-19..... S.D. 2,912 ft.; bailer lost in hole.
Amory Pet. Co.'s No. 1 Hall, Sec. 8-13-19 ..... Shot 2,402-18 ft.; small S.O.; arranging to shoot 2,387-95 ft.
Associated Oil Co.'s No. 1 School, SW cor. SW SE, Sec. 16-15-17 ..... Began drlg. Aug. 20.
Park Bowser et al's No. 1 Cowart, second hole, Sec. 2-12-19 ..... S.D. 30 ft.

RANKIN COUNTY

Gulf Ref. Co.'s No. 1 Hartfield, 1,980 ft. S, 660 ft. E, NW cor., Sec. 7-5-2e ..... Drlg. 1,350 ft.
R. A. Moore et al's No. 1 Interior Lbr. Co., Sec. 28-6-1e.. S.D. 900 ft.
Interior Oil Co.'s No. 1 Moore, 660 ft. N, 660 ft. W, SE cor. NW NW, Sec. 28-6-2e ..... S.D. 900 ft.
Pearl River O. & G. Co.'s No. 1 Pate, 1,380 ft. N, 1,426 ft. W, SE cor., Sec. 12-5-1e ..... Began drlg. Aug. 21; cmtd. 10-in. 450 ft.
Dr. S. D. Raymond's No. 1 Graves, 1,810 ft. N, 3,210 ft. W, SE cor., Sec. 12-5-1e ..... Derrick.
Southern Pet. Co.'s No. 1 Investment, 2,170 ft. N, 1,790 ft. W, SE cor., Sec. 12-5-1e ..... Derrick.

WARREN COUNTY

El Dorado Oil Co.'s No. 1 Dornbush, Sec. 8-18-15 ..... S.D. 2,475 ft.; 2,350 ft. D.S. in hole; W.O.

WILKINSON COUNTY

A. C. Glassell et al's No. 1 Stowers, 31.4 chains W, 27.2 chains S, NE cor., Sec. 29-8-2w ..... S.D. fuel 3,500 ft.

YALOBUSHA COUNTY

Carter Oil Co. and J. W. Collett's No. 1 Blackmur, 330 ft. S, 990 ft. W, Sec. 14-11-4 ..... Fishing 2,300 ft.

YAZOO COUNTY

Amerada Pet. Corp.'s No. 1 Doherty, SW SW, Sec. 24-12-2 ..... Drlg. sandy lime 5,133 ft.

ALABAMA

LAMAR COUNTY

Griggs & Knapp's No. 1 Wefel, Sec. 25-12-14 ..... T.A. 1,740 ft.

LAUDERDALE COUNTY

A. D. Morton et al's No. 10 O'Neal est., Sec. 8-2s-13w.... Cmtd. 12½-in. 125 ft.; drlg. hard lime 905 ft.

MARION COUNTY

Hobson et al's No. 1 John Clark, SE, Sec. 29-11-14 .... Derrick pattern.

WASHINGTON COUNTY

S. A. Hobson's No. 1 Hobson Bros., Sec. 9-8-2 ..... S.D.; W.O.; flow at 1,450 ft.
S. A. Hobson's No. 1 Wilson, Sec. 27-7-1 ..... Fishing bailer; T.D. 881 ft.
Oscar Brown's No. 2 Land & Cotton Co., Sec. 25-3-2w.... Drlg. 700 ft.

LOUISIANA-ARKANSAS PROVEN AREAS

(Continued from Page 54)

Woodley et al's No. 1 Roberson, 330 ft. N, 330 ft. W, SE cor. SW NE, Sec. 22-23-12..... Surface csg collapsed; W.O.; T.D. 1,500 ft.

BOSSIER PARISH—SLIGO

La. G. & F. Co.'s No. 8 Thigpen-Herold, 660 ft. W, 660 ft. N, SE cor. SE SW, Sec. 13-17-12 ..... Began drlg. Aug. 20; cmtd. 12½-in. 278 ft.
Woodley Pet. Co.'s No. 3 Schuler, 660 ft. N, 460 ft. E, SW cor. NW, Sec. 13-17-12..... Bailing to test; T.D. 2,437 ft.

CADDO PARISH—GREENWOOD

Calatex O. & G. Co.'s No. 1 Edgar, 1,460 ft. S, 1,900 ft. E, NW cor., Sec. 17-16-16 ..... Location.
Calatex O. & G. Co.'s No. 1 McAnn-Alfred, 1,810 ft. S, 970 ft. E, NW cor., Sec. 17-16-16..... Location.
Calatex O. & G. Co.'s No. 1 Hudson, 2,395 ft. N, 660 ft. E, SW cor., Sec. 8-16-16..... Rig up.

CADDO PARISH—OIL CITY

The Texas Co.'s No. 73 Levee Board, 1,642 ft. E, 780 ft. N, SW cor. SW SE, Sec. 27-21-16..... Location.

CADDO PARISH—PINE ISLAND

Bayou State Oil Co.'s No. 3 Barr, 300 ft. W, 275 ft. S, NE cor. SE SW, Sec. 30-22-15..... Began drlg. Aug. 21; cmtd. 10-in. 41 ft; drlg. 908 ft.

Shreveport Oil Corp.'s No. 1-A Muslow, 150 ft. S, 150 ft. E, NW cor., Sec. 32-21-15 ..... Drlg. 1,781 ft.

DE SOTO PARISH—HOLLY

Standard Oil Co.'s No. 2 Dowling Bros., 330 ft. S, 330 ft. W, NE cor. SW NE, Sec. 5-13-13 ..... Cmtd. 7-in. 2,800 ft; T.D. 2,840 ft.

LA SALLE PARISH—URANIA

Montugu Oil Co.'s No. 8 Zenoria Lbr. Co., 710 ft. S, 250 ft. W, NE cor., Sec. 10-9-1e ..... W.O.S.R. 1,510 ft.

MOREHOUSE PARISH

Bahan & Bahan's No. 4 Feazel, 900 ft. W, 330 ft. S, NE cor., Sec. 2-20-4 ..... Location.

Grecian Bend Gas Co.'s No. 1 J. D. Sandidge et al, 660 ft. W, 1,980 ft. N, SE cor. NE, Sec. 2-20-4 ..... Location.

Greenwood Production Co.'s No. 1 Burrell, 713 ft. W, 1,083 ft. N, SE cor. NE, Sec. 21-20-4 ..... Location.

La. G. & F. Co.'s No. 26 Crossett, 645 ft. E, 574 ft. S, NW cor., Lot 9, Sec. 33-21-5 ..... Milling 6-in. csg. 2,195 ft; T.D. 2,380 ft.

Ouachita Nat. Gas Co.'s No. 2 Cole, 660 ft. S, 613 ft. W, NE cor., Sec. 13-20-4 ..... Location.

Ouachita Nat. Gas Co.'s No. 6 Sandidge, 732 ft. S, 1,209 ft. W, NE cor. SE, Sec. 23-20-4 ..... Drlg. 1,786 ft.

Ouachita Nat. Gas Co.'s No. 7 Sandidge, 1,047 ft. N, 694 ft. E, SW cor. NW, Sec. 24-20-4 ..... Location.

Southern Carbon Co.'s No. 13 Tensas, 660 ft. S, 1,320 ft. W, NE cor., Sec. 4-20-4 ..... Cmtd. 12-in. 185 ft; drlg. 340 ft.

OUACHITA PARISH

Amalgamated Co.'s No. 1-B Kate Cole, 660 ft. N, 660 ft. E, SW cor. NE SW, Sec. 25-20-4 ..... Began drlg. Aug. 25; drlg.

Ark.-La. P. L. Co.'s No. 5 McEnery, 1,310 ft. S, 1,040 ft. E, NW cor. NE NW, Sec. 28-19-4 ..... Began drlg. Aug. 20; cmtd. 12-in. 201 ft., 8-in. 860 ft; drlg. 1,570 ft.

Greenwood Prod. Co.'s No. 1 White, 1,306 ft. W, 660 ft. N, SE cor. NW NE, Sec. 36-19-3 ..... Location.

Industrial Gas Co.'s No. 3 Fee, 541 ft. S, 531 ft. E, NW cor. NE SW, Sec. 6-18-4 ..... Derrick.

Jordan Drlg. Co.'s No. 7 Cole, 265 ft. S, 1,459 ft. W, NE cor., Sec. 49, in Sec. 50-18-4 ..... Location.

Jordan Drlg. Co.'s No. 1 J. P. Parker, 950 ft. N, 485 ft. W, cor. Secs. 41, 9 and 16, in Sec. 41-18-4 ..... Drlg. 2,025 ft.

Jordan Drlg. Co.'s No. 1 School, 216 ft. S, 244 ft. W, NE cor. NW, Sec. 16-18-4 ..... Location.

Magnolia Pet. Co.'s No. 1 Breard, 550 ft. N, 660 ft. W, SE cor. NW NE, Sec. 15-18-4 ..... Began drlg. Aug. 20; cmtd. 10-in. 906 ft.

Pipes & Mack's No. 2 Union Gas Products Co., 296 ft. W, 528 ft. N, SE cor SW, Sec. 7-18-5 ..... Location.

United Carbon Co.'s No. 6 Spade, 1,180 ft. S, 140 ft. E, NW cor., Sec. 27-19-4 ..... Location.

RICHLAND PARISH

W. C. Feazel's No. 1 R. B. Simon, 2,406 ft. W, 2,020 ft. S, NE cor., Sec. 11-16-6 ..... Rig moved; derrick.

Franklin O. & G. Co.'s No. 1 Thompson, 660 ft. N, 165 ft. W, SE cor. NE, Sec. 14-16-6 ..... Location.

Hope Prod. Co.'s No. 1 J. E. Duff, 660 ft. N, 1,980 ft. W, SE cor., Sec. 15-16-6 ..... Cmtd. 9-in. 873 ft.

International Gas Prod. Co.'s No. 1 Minnie LaGrone, 769 ft. N, 858 ft. E, SW cor., Sec. 7-16-7 ..... Location.

La. G. & F. Co.'s No. 1 Etheridge, 1,412 ft. S, 770 ft. E, NW cor. NE, Sec. 28-17-6 ..... Began drlg. Aug. 22; cmtd. 12½-in. 167 ft; drlg. 519 ft.

Northern La. Nat. Gas Co.'s No. 5-B McCoy, 1,650 ft. S, 660 ft. W, NE cor., Sec. 17-16-6 ..... Began drlg. Aug. 25; drlg. 160 ft.

Northern La. Nat. Gas Co.'s No. 1 McKay, 681 ft. W, 559 ft. N, SE cor. SW, Sec. 22-16-6 ..... Cmtd. 9-in. 881 ft; drlg. 1,877 ft.

Palmer Corp.'s No. 1-B Boykin, 177 ft. S, 787 ft. E, C, Sec. 33-17-6 ..... Derrick.

Palmer Corp.'s No. 1 Hill, 1,320 ft. S, 660 ft. E, NW cor. SW, Sec. 31-16-6 ..... Cmtd. 6-in. 2,300 ft.

Palmer Corp.'s No. 1 Noble, 1,660 ft. E, 887 ft. N, SW cor., Sec. 25-16-6 ..... Cmtd. 6-in. 2,300 ft.

Palmer Corp.'s No. 1 Rhymes-Earle, 1,980 ft. S, 1,394 ft. W, NE cor., Sec. 36-17-5 ..... Derrick.

Palmer Corp.'s No. 2 Rhymes-Earle, 3,486 ft. W, 1,327 ft. S, NE cor., Sec. 36-17-5 ..... Location.

Palmer Corp.'s No. 10 Rhymes-England, 1,245 ft. S, 700 ft. W, NE cor., Sec. 7-16-6 ..... Location.

Palmer Corp.'s No. 11 Rhymes-England, 2,033 ft. W, 660 ft. S, NE cor. NE, Sec. 12-16-5 ..... Location.

Richland Prod. Co.'s No. 3 M. L. McCoy, 1,980 ft. S, 662 ft. W, NE cor., Sec. 29-16-6 ..... Cmtd. 9-in. 920 ft; drlg. 1,250 ft.

Southern Carbon Co.'s No. 1-B Hallock, 1,622 ft. N, 990 ft. W, SE cor. NW, Sec. 1-16-6 ..... Began drlg. June 12; cmtd. 12-in. 185 ft., 8-in. 865 ft.

Southern Carbon Co.'s No. 1 G. Harris, 10 ft. S, 660 ft. W, NE cor., Sec. 10-16-6 ..... Location.

Southern Carbon Co.'s No. 1-C Hemler, 1,164 ft. S, 888 ft. W, NE cor., Sec. 14-16-6 ..... Location.

Southern Carbon Co.'s No. 2-C M. L. McCoy, 1,880 ft. N, 5,024 ft. E, SW cor., Sec. 1-16-6 ..... Location.

Southern Carbon Co.'s No. 6 F. B. and E. A. Sartor, 2,640 ft. N, 2,031 ft. W, SE cor., Sec. 24-16-5 ..... Drlg. 1,985 ft.

Southern Carbon Co.'s No.1-B H. L. Thomason et al, 2,310 ft. W, 100 ft. S, NE cor., Sec. 23-16-6 ..... Drlg. 2,247 ft.

Southern Carbon Co.'s No. 1-C Thomason, 1,980 ft. N, 1,400 ft. W, SE cor., Sec. 14-16-6 ..... Location.

Southern Carbon Co.'s No. 1-D Thomason, 1,320 ft. S, 660 ft. W, NE cor., Sec. 31-16-6 ..... Cmtd. 6-in. 2,285 ft.

United Carbon Co.'s No. 1 Boise, 1,320 ft. W, 660 ft. N, SE cor., Sec. 28-16-6 ..... Cmtd. 6-in. 2,285 ft.

United Carbon Co.'s No. 1 Boughton, 3,244 ft. E, 4,693 ft. N, SW cor., Sec. 1-16-6 ..... Location.

United Carbon Co.'s No. 1 Noble, 530 ft. W, 1,255 ft. S, cor. Secs. 5, 6 and 37, in Sec. 37-15-6 ..... Drlg. 1,819 ft.

United Carbon Co.'s No. 1-A J. M. Thomason, 2,032 ft. N, 3,338 ft. W, SE cor., Sec. 22-16-6 ..... Cmtd. 6-in. 2,285 ft.

SABINE PARISH—PLEASANT HILL

Ark. Fuel Oil Co.'s No. 14 Logan, 1,035 ft. N, 241 ft. W, C, Sec. 33-10-12 ..... W.O.S.R.; 8-ft. sand; T.D. 3,230 ft.

F. A. Bartlett, Jr.'s No. 1 Logan, 200 ft. S, 200 ft. E, NW cor., Sec. 27-10-12 ..... Began drlg. July 13; cmtd. 12-in. 110 ft.

A. C. Glassell's No. 1 Logan Oil Co., 300 ft. E. C. Sec. 23-10-13 ..... S.D. wtr; T.D. 1,710 ft.

SABINE PARISH—ZWOLLE

Ark. Fuel Oil Co.'s No. 1 Susie Russell, 330 ft. N, 330 ft. E, SW cor. E½ NW NE, Sec. 26-8-12 ..... Rig up.

Tom Davis' (was T. D. Allison's) No. 1 Holliday, Sec. 31-8-12, Zwolle Townsite ..... S.D. wtr. 1,350 ft.

F. M. Hood's No. 1-B (was No. 2) Winston, 700 ft. E, 425 ft. S, NW cor., Sec. 31-8-12, Zwolle Townsite ..... S.D. 1,065 ft.

Huber & Mann's No. 1 Newton, 330 ft. S, 330 ft. E, NW cor. NE SW, Sec. 25-8-12 ..... S.D. wtr. 2,300 ft.

Ab Jones et al's No. 1 Ferguson, 330 ft. N, 330 ft. W, SE cor. NE SW, Sec. 33-8-12 ..... Rig up.

Lacey Pet. Co.'s No. 1 Tatum, 350 ft. W, 200 ft. N, SE cor. SW NE, Sec. 26-8-12 ..... Began drlg. Aug. 22; cmtd. 10-in. 110 ft; drlg. 600 ft.

Lacey Burkett Co.'s No. 1 Danna, 316 ft. E, 200 ft. S, C, Sec. 26-8-12 ..... Began drlg. Aug. 26; drlg.

Lanier & Tarver's No. 1 Newton, 530 ft. S, 530 ft. E, NW cor. NW SW, Sec. 25-8-12 ..... Began drlg. Aug. 23; cmtd. 10-in. 90 ft; S.D. wtr.

Loring Oil Co.'s No. 12 Bowman-Hicks, 330 ft. S, 345 ft. W, NE cor. SE NE, Sec. 33-8-12 ..... Began drlg. Aug. 24; cmtd. 10-in. 105 ft.

Loring Oil Co.'s No. 10 Bowman-Hicks, 330 ft. N, 330 ft. E, SW cor. NE SE, Sec. 33-8-12 ..... S.D. 2,664 ft.

Loring Oil Co.'s No. 2 Sabine Lbr. Co., 1,430 ft. E, 340 ft. N, C, Sec. 34-8-12 ..... Drlg. 2,585 ft.

Loring Oil Co.'s No. 1 Schuffert, 330 ft. S, 330 ft. W, NE cor. NE SE, Sec. 27-8-12 ..... Cmtd. 6⅝-in. 2,376 ft; drlg. 2,404 ft.

Loring Oil Co.'s No. 2 Schull, 957 ft. E, 330 ft. S, NW cor. SW, Sec. 26-8-12 ..... Began drlg. Aug. 21; cmtd. 10-in. 105 ft; drlg. 1,383 ft.

Ohio Oil Co.'s No. 5 Bowman-Hicks, 330 ft. N, 330 ft. E, SW cor., Sec. 33-8-12 ..... Cmtd. bottom; T.D. 2,708 ft.

W. D. Perritt et al's No. 1 Elliott, 150 ft. N, 150 ft. E, SW cor. SW SE SW, Sec. 30-8-12 ..... Set 4½-in. with packer 2,230 ft; testing 2,263 ft.

Philp Bros.' No. 1 Dow, Lot 1, Blk. 18, Zwolle Townsite, Sec. 31-8-12 ..... Bailed dry 2,300 ft.; S.D.

Posey et al's No. 1 Peterson, Blk. 16, Zwolle Townsite, Sec. 31-8-12 ..... S.D. 250 ft.

Pugh-Hickman Drlg. Co.'s No. 1 Sabine Lbr. Co.'s 350 ft. N, 350 ft. E, SW cor. NW NE, Sec. 34-8-12 ..... Derrick.

A. H. Tarver et al's No. 2 Sabine State Bank, 300 ft. N, 300 ft. E, SW cor. NW, Sec. 26-8-12 ..... Comp. June 1; prod. 45 bbls. 2-327 ft; O.W.D.D; drlg. Aug. 25, 2,370 ft.

The Texas Co.'s No. 1 Glauque, 1,670 ft. E, 260 ft. N, SW cor., Sec. 27-8-12 ..... Top marl 2,273 ft; cmtd. 6⅝-in. 2,275 ft.

Wheatcroft et al's No. 1 Sabine Lbr., Co., SW NE, Sec. 31-8-12 ..... S.D. 2,495 ft.

SABINE PARISH—BLUE LAKE

R. L. Gay's No. 8 Bowman-Hicks, Sec. 18-7-13 ..... S.D. 2,552 ft.

R. L. Gay, trustee's No. 5 Sabine Lbr. Co., 330 ft. S, 330 ft. W, NE cor. SE NE, Sec. 15-7-14 ..... Drlg. 1,800 ft.

UNION PARISH

Greenwood Prod. Co.'s No. 4 Norsworthy, 1,336 ft. E, 1,980 ft. N, SW cor., Sec. 9-21-3 ..... Began drlg. Aug. 10; cmtd. 12½-in. 165 ft., 8-in. 800 ft., 6-in. 2,041 ft.

Industrial Gas Co.'s No. 6 Grayling Lbr. Co., 660 ft. E, 665 ft. N, SW cor. NW, Sec. 33-21-4 ..... Derrick.

Interstate Nat. Gas Co.'s No. 1 J. M. Edwards, 1,980 ft. W, 660 ft. S, NE cor., Sec. 11-21-3 ..... Rig up.

Nemours Corp.'s No. 2 Hollis, 817 ft. S, 995 ft. W, NE cor. NW, Sec. 11-20-3 ..... Began drlg. Aug. 18; cmtd. 12-in. 192 ft.; drlg. 350 ft.

Stovall Drlg. Co.'s No. 1 Murray, 1,650 ft. N, 330 ft. W, SE cor. SW, Sec. 32-23-4 ..... Rig up.

WEBSTER PARISH—SAREPTA AND SHONGALOO

Ideal O. & G. Co.'s No. 1 Coyle, 300 ft. N, 300 ft. E, SW cor. SW SE, Sec. 24-23-11 ..... Derrick.

H. M. Jones Drlg. Co.'s (was E. W. Bateman's) No. 2 Cook, 200 ft. S, 200 ft. W, NE cor. SE NW, Sec. 2-22-11 ..... 14-ft. sand; W.O.S.R. 2,727 ft.

H. M. Jones Drlg. Co.'s No. 1 Womble, 860 ft. S, 200 ft. E, NW cor. SW, Sec. 1-22-11 ..... Derrick.

K. C. Supply Co.'s No. 1 Cochrane, 330 ft. N, 330 ft. W, SE cor. E½ NW, Sec. 36-23-11 ..... Plugged back to 2,713 ft.; T.D. 2,726 ft.

Liggett et al's No. 1 Slack, 720 ft. E, 150 ft. N, SW cor. SE, Sec. 36-23-11 ..... W.O.S.R; 5 ft. sand; T.D. 2,739 ft.

Liggett et al's No. 2 Slack, 720 ft. E, 150 ft. N, SW cor. SE SE, Sec. 36-23-11 ..... S.D. 2,618 ft.

Magnolia Pet. Co.'s No. 2 Sally Coyle, 150 ft. N, 150 ft. W, SE cor. SE NE, Sec. 2-22-11 ..... Swabng. est. 20 bbls. oil, 100 bbls. S.W; T.D. 2,712 ft.

Merrick Oil Corp.'s No. 3 Slack, 330 ft. N, 330 ft. W, SE cor. SW SE, Sec. 36-23-11 ..... Derrick.

Sarepta Oil Co.'s No. 3 Gardner, 396 ft. N, 78 ft. E, SW cor. NW NW, Sec. 6-22-10 ..... Derrick.

W. O. Neely's No. 1 J. R. Slack, 150 ft. N, 150 ft. E, SW cor., Sec. 12-22-11 ..... Location.

Sarepta Oil Co.'s No. 2 Gardner, NE SW, Sec. 1-22-11 ..... Rig up.

Sarepta Oil Co.'s No. 1 Slack, SW cor. NW NE, Sec. 36-23-11 ..... Rig up.

Southern Prod. Co.'s No. 4 Slack, 600 ft. N, 600 ft. W, SE cor. NW NE, Sec. 1-22-11 ..... Began drlg. Aug. 20; cmtd. 10-in. 106 ft; drlg. 2,100 ft.

Service Drlg. & Royalties Co.'s No. 4 Waller estate, 330 ft. N, 330 ft. E, SW cor., Sec. 21-23-11 ..... Began drlg. Aug. 1; cmtd. 12½-in. 400 ft; S.D. 3,380 ft.

ARKANSAS

JOHNSON COUNTY

Conn Grable's No. 1 Hoeing, 720 ft. N, 590 ft. W, SE cor., Sec. 20-9-25 ..... S.D. 2,070 ft.; C.D.

NEVADA COUNTY

C. F. Steele's No. 1 E. W. Groves, Sec. 21-14-20 ..... S.D. 2,810 ft.

OUACHITA COUNTY—SMACKOVER

L. H. Hamilton's No. 3 Doyle, 100 ft. E, 400 ft. N, SW cor. SE SE, Sec. 23-15-16 ..... Derrick.

Standard Oil Co.'s No. 7 Farris, 200 ft. S, 200 ft. W, NE cor. NW NW, Sec. 34-15-15 ..... W.O.S.R.; 300 ft. fluid; top sand 1,998 ft.; T.D. 2,035 ft.

Wilson & Chapman's No. 1-B Arnold, 330 ft. N, 330 ft. E, SW cor. SE SW, Sec. 24-16-15 ..... W.O.S.R.; 150 ft. oil; T.D. 2,061 ft.

Wilson & Chapman's No. 2-B Arnold, Sec. 24-15-16 ..... Began drlg. Aug. 20; cmtd. 10-in. 60 ft., 6⅝-in. 2,050 ft; T.D. 2,064 ft.

UNION COUNTY—CHAMPAGNOLLE

Ohio Oil Co.'s No. 10 Crain, 330 ft. S, 330 ft. W, NE cor. SE SW, Sec. 1-17-14 ..... Derrick.

Ohio Oil Co.'s No. 2 R. Furlough, 330 ft. N, 330 ft. E, SW cor. NE, Sec. 12-17-14 ..... Drlg. 2,175 ft.

Ohio Oil Co.'s No. 4 R. Pumphrey, 330 ft. S, 330 ft. W, NE cor. NE NW, Sec. 12-17-14 ..... Derrick.

Sundby et al's No. 2 Perdue, 75 ft. S, 150 ft. E, NW cor., Sec. 32-16-14 ..... S.D. 3,205 ft.

UNION COUNTY—EL DORADO

H. L. Hunt's No. 6 Pratt, 150 ft. N, 330 ft. E, SW cor. NE NE, Sec. 7-18-15 ..... S.W. 2,214 ft.

Rice Drlg. Co.'s No. 1 Watley, 150 ft. S, 150 ft. E, NW cor. SW, Sec. 7-17-15 ..... Reported abd. 92 ft. Apr. 30, 1930; arranging to resume drlg.

EAST TEXAS

HARRISON COUNTY

Calatex O. & G. Co.'s No. 6 Agurs, 755 ft. N, 699 ft. W, Mile Post 27, in J. Womack Sur. ..... Location.

Shell Rock Pet. Co.'s No. 1 Oliver Dougherty, W. D. Burris Sur. ..... Fishing; T.D. 3,445 ft.

PANOLA COUNTY

Ark.-La. P. L. Co.'s No. 2-A G. W. Brumble, 477 ft. W, 473 ft. S, NW cor., Jno. Womack Sur., in B. C Jordan Sur. ..... Fishing D.S.; T.D. 4,408 ft.

S. E. Bell et al's No. 1 Burnett Lbr. Co., center S. B. Hendricks Sur. ..... S.D. 1,837 ft.

W. G. Banks et al's No. 1 Greeny-Kyle, C Greeny-Kyle 65 ac., Jas. Tippett Sur. ..... Location.

Jackson et al's No. 1 Dunham, 150 ft. W, 150 ft. N, SE cor., M. I. Dunham 29 ac., in Chas. Haley Sur. ..... S.D. 2,005 ft.

Nat. Gas Products Co.'s No. 3 Tom Moore, 889 ft. E, 7,928 ft. S, NW cor., B. C. Jordan Sur. ..... Drlg. 4,300 ft.

The Texas Co.'s No. 11 G. W. Brumble, 2,814 ft. N, 700 ft. W, SE cor., E. F. Mitcheson Sur. ..... Drlg. 1,990 ft.

Doris Thomason's No. 15 Crenshaw, 1,992 ft. S, 2,305 ft. E. SW cor., Jno. Womack Sur., in B. C. Jordan Sur. ..... Derrick.

Warren & Davis' No. 1 McNuse, 1,671 ft. S, 1,329 ft. E, NW cor., Abe Brooker Sur. ..... Derrick.

FRACTIONAL ANALYSES OF LIGHT MIXTURES

(Continued from Page 46)

accuracy is desired are measured in a one-half liter water jacketed flask. Manometers used with the flasks are provided with a leveling bulb and the flask side always adjusted to a constant level to maintain the volume of the measuring system constant. Pressure changes in the flask are thus indicated directly by the other leg of the manometer.

Many samples were measured both into and out of the apparatus using the same measuring flask, forcing the original sample into the column by mercury displacement. Such measurements usually

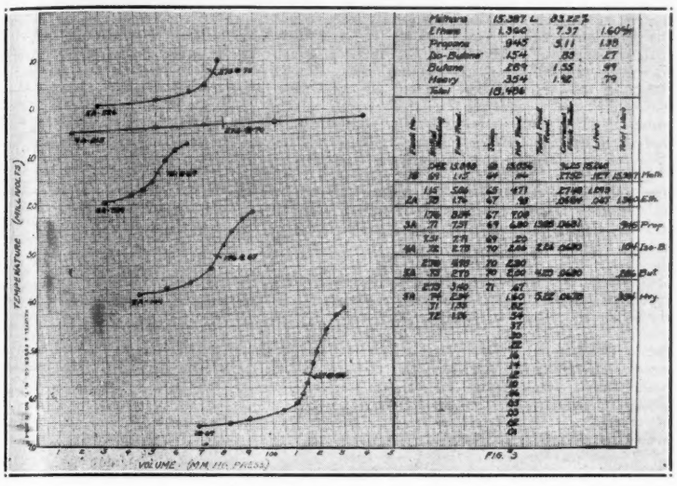


Figure 3.

checked within 0.01 per cent, indicating the possible accuracy of measurement. They also gave a definite check of the accuracy of recording the various volume measurements and of the accuracy of the calculations, but proved too tedious for routine work.

(f) Kettle: Many sizes and types of kettles were tried. A 100 cc. graduated kettle has been found most convenient for handling miscellaneous samples. Kettles inside of the vacuum jacket were at first considered very good, but later abandoned in favor of external kettles insulated with a deep removable vacuum flask. The external type permits of very accurate heat control by means of a small electric heater (H) which is sometimes attached permanently to the kettle. Heat input to the kettle directly determines reflux rate, and indirectly reflux ratio. The necessity for accuracy of control of heat input is apparent.

(g) Column: Columns of from 3 to 25 millimeters diameter have been built and operated, as well as spiral columns containing 10 feet of small tubing. A 4-millimeter column has been found most satisfactory for routine analyses. A double spiral nichrome wire packing has proven most suitable for such columns. Because of its low heat conductivity, it favors the assumption of the proper temperature gradient in the columns, also it is resistant to corrosion and to amalgamation with mercury. Copper wire was originally used as packing, but it failed in regard to all of the points mentioned.

Present Apparatus

The entire apparatus is constructed of Pyrex glass and is sealed together into one piece to eliminate rubber joints and minimize chances of leakage. It might seem that such an apparatus would be fragile, but very little trouble has been experienced from breakage.

1. Fractionating Column: The fractionating column (C) consists of a Pyrex tube, 4 mm. I.D. by 850 mm. long, surrounded by a jacket which is evacuated to a pressure of 10-5 mm. of mercury or less. Both column and jacket are heavily silvered except for a small window near the upper end. The combination of high vacuum and heavy silvering makes the column practically adiabatic. The packing in the column consists of a double concentric spiral of No. 22 nichrome wire which serves to intimately contact the ascending vapors with the descending reflux. The kettle (K) is sealed to the bottomed of the column and is provided with an intake line. The upper end of the column is provided with a small tip (D) from which the reflux drips during fractionation. A condensing tube is sealed to the

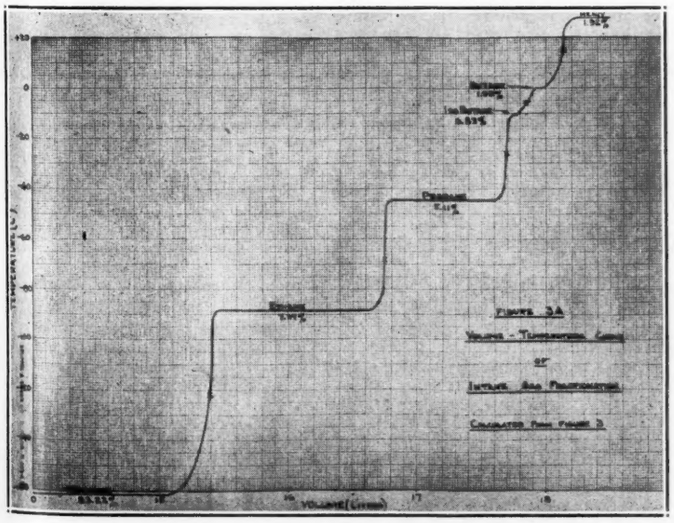
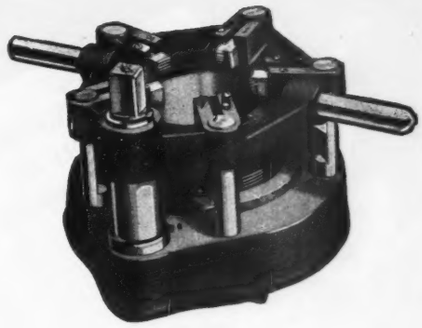


Figure 3-A—Volume-temperature curve of intake gas fractionation.



RECOGNIZED ON SIGHT—

By thousands of contractors throughout the country as the lightest, most compact, easiest operating and most efficient 2½″ to 4″ threading device on the market.

The "TOLEDO" No. 2, for nearly 30 years has been standard equipment with contractors who insist on dollar-for-dollar value. Strong and sturdily built, this time-proven "TOLEDO" will give you years of service.

"TOLEDOS"—from the smallest to the largest for 12″ are portable and can be operated by one man. When used with "TOLEDO" Power Drives their efficiency is increased many times over and will save you time and money on your piping jobs.

Ask for the new Handbook "K". Familiarize yourself with the complete "TOLEDO" line. Standardize on "TOLEDOS"—the tools of quality.

THE TOLEDO PIPE THREADING MACHINE CO. TOLEDO, O.
NEW YORK OFFICE, 72 LAFAYETTE ST.

THREAD AND CUT YOUR PIPE WITH GENUINE

"TOLEDO"

TRADE-MARK REGISTERED

TRADE-MARKED TOOLS

INSURANCE companies long have recognized the value of dependable equipment. As evidence of their confidence in Oceco fittings, they apply their lowest rates on tanks which are Oceco-equipped.

If you are not now paying the lowest possible rate for insuring your tanks, it's time for an adjustment—either you need Oceco equipment or you deserve a reduction of your premiums.

To self-insurers, it is, of course, even more important that tanks be Oceco-equipped.

THE OIL CONSERVATION ENGINEERING COMPANY

877 Addison Road Cleveland, Ohio

Engineering and Sales Service:

90 West St., New York Tulsa Trust Bldg., Tulsa, Okla.
Box 552, Beaumont, Texas Neilan, Schumacher & Co., Los Angeles, Cal.

top of the column. Surrounding the condensing tube is a silvered vacuum jacketed condensing bath container (B) which is attached at the bottom by means of a cork. The upper end of the vacuum jacket surrounding the column extends through the cork into the condensing bath to prevent heat leakage at this point. A single junction thermocouple enters the top of the condenser and its junction is centered in the condensing tube below the liquid level of the condensing bath. A manometer (M) sealed to the delivery tube from the column indicates the pressure under which fractionation takes place, and, together with the temperature indicated by the potentiometer (P), permits of the approximate identification of the constituents being removed. A vapor pressure bulb is sealed to the outfit for checking the purity of the fractions.

2. Measuring Apparatus: A three-way stopcock connects the column with either a 1-liter wet test meter, or a water jacketed measuring flask (F) with constant level manometer (M). A second stopcock connects the measuring bulb to a vacuum line.

3. Auxiliary Apparatus: The auxiliary apparatus required in operation is as follows: A vacuum flask and an electric heater (H) for controlling the kettle temperature. A vacuum flask, liquid air boat (A) and stirrer (S) for controlling the condensing bath temperature. A potentiometer (P) for reading the overhead vapor temperature. A vacuum pump for evacuating the apparatus before introducing the sample and for removing the constituents from the measuring bulb. This pump should be capable of producing a vacuum of 0.01 mm. of mercury. An oil sealed pump has been found practical for this purpose. It is essential to use a liquid air trap ahead of the pumps to protect it from condensable material.

Fig. 2 is a photograph of a double oufit used in plant control work.

Method of Operation

1. Introduction of Sample: Before introducing gas samples, an Orsat analysis should be made for the determination of carbon dioxide and air.

The sample container is connected to the intake line on the kettle through a calcium chloride tube for removing moisture and, in case of gas samples, an Ascarite tube for removing carbon dioxide. The apparatus is completely evacuated up to the valve on the sample container. Gas samples are heated if there is any possibility of the presence of condensed liquid in the sample container. Liquid samples are introduced by water displacement to prevent vaporization.

Samples may be admitted as rapidly as the calcium chloride and Ascarite tubes will effect complete removal of the water and the carbon dioxide. These must be completely removed or there is danger of freezing up the column with the possibility of an explosion. They will also cause inaccuracies in the analysis, as carbon dioxide will come over with the ethane and water with the butane and heavier. All samples are completely condensed in the kettle.

2. Size of Sample: The size of the sample is governed entirely by the use which is to be made of the results. For example, a large sample would be required to accurately determine a small amount of propane in a well rectified gasoline, or the butane and heavier in a dry plant discharge. However, a very small sample would give the propane content of a normal rectifier overhead with sufficient accuracy for most purposes. In plant control work, 30 cc. to 40 cc. of liquid gasoline or rich gas are usually sufficient for a test, while 75 cc. or more are necessary in the case of lean gases. Volumes are measured at liquid air temperature.

This size of sample is usually sufficient to furnish isopentane reflux at the end of the distillation and thus provide a butane-isopentane cut. From 0.2 cc. to 0.5 cc. of liquid residue are necessary to maintain reflux, depending upon the construction of the column. It should be especially noted that accurate results are not possible after losing reflux, though breaks in the distillation curve may sometimes be obtained.

In case the sample contains large amounts of air or other gas not condensable at liquid air temperature, the condensing bath must be cooled as far as possible and the noncondensable gas carefully removed and measured before the rest of the sample can be introduced. If possible, however, it is much better to obtain an air-free sample. After introducing the sample, the glass stopcock on the kettle is sealed with mercury to prevent the possibility of air leakage.

3. Establishment of Equilibrium: The condensing bath is filled with liquid butane and the stirrer started to maintain a uniform temperature throughout. Liquid air is then forced into the metal container (A, Fig. 1) where its evaporation cools the bath. As the atmospheric condensation temperature of the lightest constituent is approached, heat is carefully admitted to the kettle at a rate sufficient to maintain atmospheric pressure

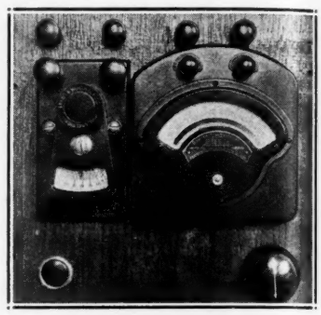


Figure 5—Arrangement of voltmeter.

on the column. Column pressure control is now dependent entirely upon kettle temperature.

When the condensing bath reaches the proper temperature to condense the lightest constituent present, column pressure control suddenly changes from kettle temperature to condensing bath temperature and reflux begins to drip onto the column packing. Pressure control must be maintained with the condensing bath throughout the fractionation. Kettle heat input is adjusted to give the desired reflux rate, from 40 to 60 drops per minute with the average column. This insures kettle equilibrium from thorough agitation of its contents by boiling.

As soon as reflux drips back into the kettle, the system is in thermal equilibrium and operating with "infinite reflux ratio." In case the sample contains air or other gases not condensable at liquid air temperature and atmospheric pressure, it is necessary to cool the condensing bath as far as possible and then carefully remove and measure the noncondensable material until refluxing begins. Meanwhile, the column pressure is maintained at atmospheric by proper heat input to the kettle.

Great care should be taken to maintain the column and the kettle in perfect equilibrium and to operate with a high reflux ratio throughout the test. Rate of withdrawal of the various constituents is not important as long as a sufficiently high ratio of reflux to overhead is maintained. A reflux ratio of from 10 to 15 to 1 is usually satisfactory. Flooding of the column with reflux is of course objectionable, and equilibrium must then be re-established before proceeding.

4. Fractionation: The following maximum rates of removal of the various constituents in vapor form have been found satisfactory with the average column:

CH_4	125–160 cc./min.	Iso-C_4H_{10}	15–20 cc./min.
C_2H_6	65– 75 cc./min.	N–C_4H_{10}	15–20 cc./min.
C_3H_8	20– 30 cc./min.	Heavier	Very Slowly

Due to the low temperature of operation, the vapor pressure ratios between methane and ethane and ethane and propane are quite high. This permits the removal of the methane and ethane quite rapidly, d.s., a high reflux ratio is unnecessary for reasonably perfect separation. The reverse is true in the case of the heavier constituents where the vapor pressure ratios are very low, and correspondingly high reflux ratios are necessary.

With the column in equilibrium at any

given pressure, the temperature at which each hydrocarbon may be removed can be found from any accurate vapor pressure chart. The accuracy with which the column conditions follow such a chart is in fact a very good check of column equilibrium, provided no unsuspected compounds are present.

A tendency for the temperature to rise with a corresponding tendency for the pressure to drop signifies the approach of a "cut" to the next constituent. A temperature-volume curve is plotted of each of these cuts as shown in Fig. 3.

This curve is not a vertical line because a definite amount of liquid must be present in the reflux condenser to furnish reflux. During the cut this becomes a binary mixture which is being constantly enriched with the heavier constituent from the column below. The temperature-volume curve plotted is its distillation curve.

During each cut the reflux rate should be decreased somewhat to decrease this holdup in the reflux condenser, thus increasing the sharpness of the cut. Reflux ratio should be increased to the point of completely shutting the column in for the same reason. Great care must be taken while decreasing reflux rate to maintain column pressure control in the reflux condenser. In other words, the heat input to the kettle must not be decreased sufficiently to seriously interfere with the evolution of vapors. The kettle liquid must be kept boiling.

It is often impractical to take a sufficient volume of a very lean gas sample to maintain reflux through butane under normal conditions of operation. As the kettle constitutes about 90 per cent of the volume of the outfit, filling it with mercury aids materially in maintaining reflux. Dropping the pressure to 300 mm. or 100 mm. by decreasing the reflux temperature has the effect of further decreasing the vapor space as it condenses from 60 to 90 per cent of the vapor to liquid, thus furnishing more reflux.

The pressure is usually dropped to 300 mm. on the butane plateau to prevent condensation of isopentane and heavier fractions in the portions of the apparatus which are at atmospheric temperature. In the case of gas samples, the residue remaining in the kettle after the final cut is removed by heating and expanding successively into a highly evacuated one-half liter measuring flask until the pressure drop is 1 millimeter of mercury or less.

5. Measurement of Fractions: Methane is measured with a 1-liter wet test meter graduated in 10 cubic centimeter divisions. In using the meter a correction is made for water vapor. The break between methane and ethane and the volumes of all of the heavier constituents are measured in a water jacketed one-half liter measuring flask with constant level manometer. Ethane is often measured in a 2-liter flask, as is propane when present in very large amounts.

As the temperature rises from the distillation range of one constituent to that of the next, a curve (Fig. 3) is plotted of temperature (expressed in millivolts) against manometer readings in millimeters. For correct results, all such temperature readings must be taken at the correct operating pressure, and the column must be in equilibrium. From this curve the point of cutting from one constituent to the next is most accurately determined by the method of equal areas. However, in case of regular curves the point midway between the distillation plateaus is sufficiently accurate.

At first glance the cuts indicated on this chart may not appear to be sharp. However, the temperature scale is small and the volume scale very large. Only the breaks in the fractionation curve are plotted. If the entire distillation curve had been plotted using this scale, it would require a sheet 180 times as wide as the one used. The complete volume—temperature curve (Fig 3-A) further illustrates this point. The portion of this curve above the methane plateau is magnified 15 times. The isobutane-butane cut is the poorest and this is inherently poor in all fractionation work as the vapor pressure ratio is only 1.6 to 1.0 compared with 3.0 to 1.0 in the case of the propane-isobutane cut.

The initial and final pressures and temperatures of each full flask are recorded. The small pressure changes taking place in the removal of the heavy ends are recorded directly as shown. In the case of liquid samples, the liquid volume of the residue is measured.

Calculation of Results

The curves obtained represent the volumes of the various constituents distilled off at various temperatures. For convenience, pressure in the calibrated measuring flask is plotted against the millivoltage developed by the thermocouple used. This is directly convertible to temperature by means of a calibration curve to be shown later. This conversion is seldom made in practice, as operators easily become accustomed to the use of the millivolt scale. The measuring flasks are calibrated in terms of liters per 100 millimeters pressure change.

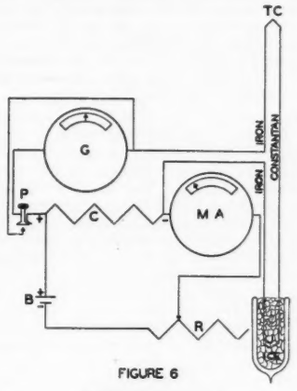


FIGURE 6

POTENTIOMETER FOR LOW TEMPERATURE MEASUREMENTS

As evident from the calculations shown in Fig. 3, the volumes of the various fractions are obtained by determining the total pressure change between the points of cutting and multiplying by the flask factor. In the example shown, this factor has been corrected to 60° F. by the usual methods.

The top line in the table of calculations is an example of the correction of wet meter readings, the factor correcting for temperature and water vapor. The next two lines are circulations of measurements in a 2-liter flask, and the other lines are examples of measurements in a one-half liter flask.

Identification

In this connection, the recent paper presented before the Atlanta Meeting of the American Chemical Society by Dr. E. W. Washburn of the U. S. Bureau of Standards is of interest. He states that for identification of petroleum hydrocarbons at least the following five properties should be determined:

1. Boiling point or vapor pressure.
2. Freezing point.
3. Density.
4. Refractive index.
5. Bromine or iodine number.

Comparison of such data with known constants for the substance will practically determine its identity except in the case of some isomers. Hydrocarbons below the hexanes may usually be identified by vapor pressure alone. The above five tests will also determine the presence of constant boiling mixtures.

Temperature Measurement

A single junction iron-constantan thermocouple is used for measuring vapor temperature. Its advantage over copper-constantan, which is usually used for low temperature work is shown by the curves of Fig. 4. They show that iron-constantan gives a higher E.M.F. per degree than does copper-constantan. No corrosion troubles are experienced in the present application as would be the case if the couple were exposed to moisture.

It will be seen that the E.M.F. of this couple is 7.0 millivolts at —165° C., which is slightly below the boiling point of methane. A sensitive low range potentiometer for use with such a couple is shown in Fig. 5. It is constructed of

2070 feet of hole

— and STILL to GAUGE! BORIUM did it.

Unretouched photograph of 13½" bit which was in hole almost 96 hours and made 2,070 feet of out-to-gauge hole.

BORIUM has made this the AGE of GAUGE in the oil fields. To be effective, a rotary bit must not only "make the hole." It must make a *good* hole . . . clean hole . . . a hole with no tight spots to hinder the passage of drill pipe or casing . . . the hole *must be out to gauge.* BORIUM, mounted on the drilling edge of a bit, will insure its long-lifed "digging." Mounted along the reaming edges, BORIUM will give that added and necessary assurance of a hole *out to gauge.*

STOODY COMPANY

Manufacturers of

Welding Rod ◆ Alloy Steels ◆ Equipment

WHITTIER, CALIFORNIA

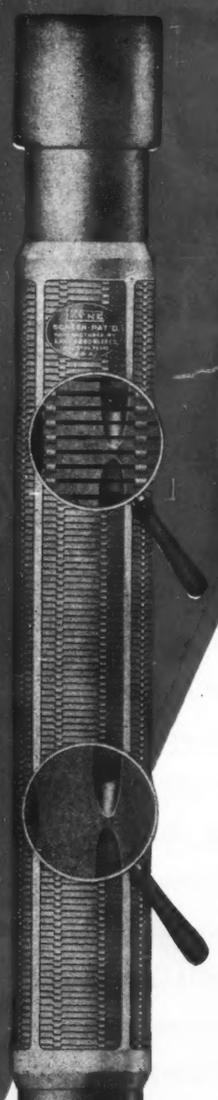
Achievements ARE THE WORK OF YEARS . . .

THE LAYNE

MILLED GROOVE SCREEN

IS THE *Development* OF

1/4th CENTURY



And the Oil Industry has its most important invention—an achievement—and the development of more than a quarter century of building screens and the solving of screening problems, the *Layne Milled Groove Screen!*

This "greater production" screen, guaranteeing from 33 1/3 to 100% increase, was recently proven by Pittsburgh Testing Laboratory to possess great tensile, collapsible, and end strength, having the ability to safely stand 8,000 feet of drill pipe.

The *Layne Milled Groove Screen* does not clog with mud or sand, avoids sand cutting, and is a tonic to low pressure wells.

Install *Layne Milled Groove Screen* instead of wishing you had.

Write, wire or phone for quick service, prices, catalogue or information.

The Layne & Bowler Co.

Houston THE LAYNE Texas

Install Milled Groove Instead of Wishing You Had

The Layne New York Co., 30 Church St., New York

The Layne & Bowler Corp., Los Angeles, Calif.

Vickers, Limited, London, England.

precision instruments at a total cost of about $50.

The advantage of a potentiometer over the usual millivoltmeter cannot be too strongly stressed. As it indicates with no current flowing in the thermocouple circuit, the length of leads, size of thermocouple wire, or even a badly corroded condition of the thermocouple, have no effect as long as there is a thread of metal to complete the circuit.

As seen by the diagrammatic sketch, Fig. 6, the instrument is entirely different from the usual potentiometer and contains two circuits. The measuring circuit consists of a calibrated resistance (C), a battery (B), a variable resistance (R) and a milliammeter (MA). The thermocouple circuit consists of the calibrated resistance (C), the usual thermocouple and cold junction, a galvanometer (G) and a push button (P) for checking the zero setting of the galvanometer without disconnecting the thermocouple.

In operation, the E.M.F. of the couple is balanced against the voltage drop across C by adjusting R until G indicates zero current flowing in the thermocouple circuit. The reading of MA now gives the E.M.F. of the thermocouple as the resistance of C was originally adjusted so that this would be the case. Graduations are to tenths of a millivolt and may be estimated more closely. M.A. is graduated 0—75, and C adjusted so that the reading is 0—7.5 millivolts. This is most easily done by calibration against an accurate thermometer above zero using the curve of Fig. 4 which is drawn for L.&N. standardized thermocouple wire. M.A. is an 0—75 millivolt meter, G a 20 ohm galvanometer with a sensitivity of 4 microamperes pre division, and R is a carbon compression rheostat of 0—1,000,000 ohms resistance. B is a single dry cell which lasts for nearly a year with daily operation.

The range of the instrument may be adjusted to any desired value by changing the resistance of C. Several multirange instruments have been constructed by tapping resistance (C) at three points, giving ranges of 0—7.5, 0—15.0 and 0—75.0 millivolts. They are thus sufficiently sensitive for use with a fractionation outfit and have a range up to the melting point of an iron-constantan couple, about 1,200° C.

Pressure Fractionation

The versatility of these fractionating outfits is illustrated by their successful operation under widely different conditions, especially as regards pressure. Fig. 7 is a photograph of a very compact two-column outfit which is used in localities where liquid air is not conveniently available. The cooling medium used is carbon dioxide snow which has a temperature of —80° C. instead of —195° C. as for liquid air.

Gas samples are very slowly introduced with the kettle and the reflux condenser cooled by a slush of carbon dioxide in butane. A pressure of slightly over 2 atmospheres is maintained on the apparatus by forcing the gas through a mercury bubbler contained in the 1-inch pipe which supports the apparatus. The gas is then metered. That which escapes condensation consists of the air and the methane, a large part of the ethane, a little propane and negligible amounts of the heavier constituents. Sample is introduced until sufficient condensate has collected in the kettle to enable the desired accuracy of fractionation to be obtained. The column is then shut in, equilibrium established and fractionation carried out under a pressure of approximately 1.6 atmospheres absolute, which is the vapor pressure of ethane at —80° C. After the removal of the ethane, the pressure is dropped to 1 atmosphere and fractionation carried out as usual, adding solid CO_2 to the bath for cooling instead of liquid air. In case the sample completely condensed at —80° C., the fractionation is exactly comparable to one run with liquid air. This method has its inherent limitations, but furnishes valuable information for control purposes, provided the sample is admitted slowly enough. The fractional condensation is the weak point of the method.

For fractionating large samples of gas or gasoline, as necessary in special research problems, larger diameter columns are necessary. Theoretically, to maintain the system in equilibrium the reflux condenser must be capable of removing all of the heat input to the kettle, assuming perfect insulation and no vapor removal. To assure kettle equilibrium, it must be kept boiling, and as a result more reflux is required for large samples. The column must be of sufficient diameter to handle this reflux with no tendency to load. Vapor with-

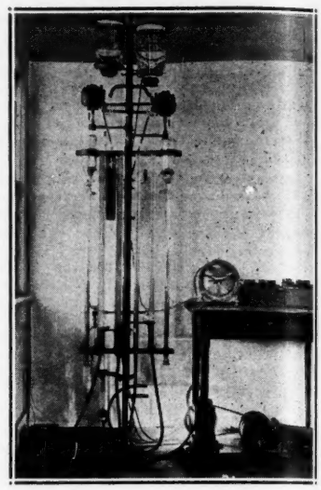


Figure 7—Two-column apparatus used when liquid air is not available.

drawn from the top relieves the condition somewhat, but when making a cut the column must often be shut in to maintain equilibrium, so this is the limiting condition.

Automatic Control

In case of large samples, automatic control of kettle temperature is almost essential. It is easily accomplished by use of an air thermometer with mercury contact and relay to operate the heater. Such an arrangement is commonly used on thermostatic baths. Automatic top temperature control has also been used successfully.

Lean Oil Fractionation

Lean oils have been fractionated through the hexanes operating at pressures as low as 25 mm. absolute to prevent condensation at atmospheric temperature. Many unidentified cuts were obtained, probably constant boiling mixtures, isomers and unsuspected compounds. Very large samples and especially designed equipment were used in this work, because operation with a standard outfit is very tedious at such low pressures.

INTERNATIONAL PRODUCTION

Crude oil production of International Petroleum Co., Ltd., in Colombia and Peru during the first six months of this year averaged 84,357 bbls. daily, an increase of 124 over 1929 half-year period. Shipments of crude oil from these two countries averaged 66,863 bbls. daily during the first half, an increase of 5,070, compared with like period of last year.

Daily crude oil production during July was 56,833 bbls. in Colombia, and 25,955 in Peru, compared with 56,528 and 27,549 bbls., respectively, in June. Shipments from Colombia in June averaged 60,832 bbls. daily, while Peruvian shipments during the month were 9,033 bbls. a day.

During the first six months, crude oil production in Colombia averaged 55,710 bbls., daily, against 55,221 bbls. during the first half of last year, and shipments averaged 53,033 bbls. a day, against 49,021 bbls. in the 1929 period.

Peruvian production during the first half averaged 28,647 bbls. a day, against 28,912 bbls. during the first six months of 1929, and shipments from that country averaged 13,808 bbls. daily, against 12,772 bbls. last year.

WILDCAT OPERATIONS IN OKLAHOMA

(Continued from Page 50)

G. W. Stogner's No. 1 Doebel, C SW SW Sec. 3-3-9w ....Shut down 1,450 ft.
Green et al's No. 1 Wilson, C NE SW Sec. 14-1-12w .....Abandoned 4,055 ft.

GARFIELD COUNTY

Shell Petroleum Corp.'s No. 1 Loomis, C NW NW Sec. 32-23-4w .....Wilcox 6,185 ft.; water 6,281 ft.; shut down.
E. L. Love et al's No. 1 White, SE cor. NW Sec. 9-24-6w .....Drlg. 5,655 ft.

GRADY COUNTY

J. V. Bailey's No. 1 Hubbard, C NE NW Sec. 1-10-6w ....Shut down 100 ft.
J. M. Henry et al's No. 1 Abraham, SE cor. NW Sec. 4-5-8w .....Rig abandoned.

GRANT COUNTY

Bu-Vi-Bar and Amerada's No. 1 Hurst, C SW Sec. 25-26-5w .....Drlg. 3,832 ft.
Cowden et al's No. 2 Vollmer, CEL NE SW Sec. 22-25-4w..Shut down 5,640 ft.

GARVIN COUNTY

McMinn et al's No. 1 Carson, NE NW Sec. 5-3-4w .....Shut down 3,026 ft.
Nelson et al's No. 1 Strickland, NE NW Sec. 10-4-3w ....Shut down 2,880 ft.

GREER COUNTY

French's No. 1 Murphy, SW NW SE Sec. 23-7-21w .....Drlg. 100 ft.
I. T. I. O. et al's No. 1 fee, C SW NE Sec. 17-6-24w .....Drlg. 2,485 ft.

HARMON COUNTY

Harmon-Tex Oil Co.'s No. 1 Hoadley, NE cor. Sec. 17-4-24w .....Drlg. 2,380 ft.
S. M. Stauffer's No. 1 Castleman, SW NE Sec. 8-4-26w....Shut down 625 ft.

HARPER COUNTY

Empire's No. 1 Bruce, C NE SW Sec. 12-25-20w .....Fishing 5,570 ft.
Sinclair Oil & Gas Co.'s No. 1 Howell, C SW SW Sec. 14-26-24w .....7,000,000 ft. gas; fishing 5,330-40 ft.; spraying oil.

HASKELL COUNTY

I. T. I. O.'s No. 1 Blake, SW NW Sec. 3-10-21 .....Rig.
Mid-Western's No. 1 Polster, C NE SE Sec. 33-10-22 ....Drlg. 3,265 ft.
Holden's No. 1 Phillip, SE cor. Sec. 3-9-18e .....Shut down 1,860 ft.
Marion Oil's No. 1 Sanders, NW NE NW Sec. 10-9-18e..Shut down 2,387 ft.
Sanboise Gas' No. 1 Unknown, SW NW SE Sec. 32-9-21e..Shut down 2,100 ft.

HUGHES COUNTY

Wright et al's No. 1 Ott, SE SW Sec. 15-5-11 .....Shut down 1,645 ft.
Canady et al's No. 1 Kanard, NW SW Sec. 29 9-12 .....1,000,000 ft. gas 2,284 ft.; shut down 4,500 ft.
Irwin et al's No. 1 Jones, SE NW Sec. 30-5-10 .....Drlg. 4,270 ft.

KAY COUNTY

Boucher Oil Co.'s No. 1 Jefferson, NE SW Sec. 32-26-1w .....Rig.
Alco Royalty Co.'s No. 1 Wolf, SE SW SE Sec. 34-26-2w..5,000,000 ft. gas, 4,390-4,420 ft.; shut down.
Blankinship Petroleum Co.'s No. 1 Hansen, SW NW SW Sec. 17-27-2 .....Sand 3,590-97 ft.; swabbed 34 bbls. after 40-qt. shot; pumped 19 bbls. in 7 hrs.

KINGFISHER COUNTY

Prairie and Slick's No. 1 Wright, C NW SW Sec. 23-15-5w .....Shut down 2,740 ft.
Galt Brown's No. 1 Wolf, NW SE Sec. 6-16-7w .....Cleaning out 6,015 ft.

KIOWA COUNTY

Riley et al's No. 1 Grebb, SW NE Sec. 6-7-16w .....Drlg. 990 ft.

LEFLORE COUNTY

Red Bank Oil Co.'s No. 1 fee, SE SW NW Sec. 23-9-24 ..Drlg. 6,200 ft.

LATTIMER COUNTY

Limestone Oil & Gas Co.'s No. 1 Murray, NE cor. Sec. 25-5-18 .....Shut down 1,450 ft.

LINCOLN COUNTY

J. J. Deaner et al's No. 1 Knox, NE NW Sec. 28-17-2 ....Wilcox 4,925 ft.; water.
Atlantic Oil Prod. Co.'s No. 1 Parker, SE NW Sec. 5-14-6 .....Drlg. 3,630 ft.
Magnolia Pet. Co.'s No. 1 Winship, NE SW Sec. 2-13-4 ..Drlg. 5,073 ft.

LOGAN COUNTY

Slick & Ramsey's No. 1 Jones, SE NW Sec. 24-17-2w ....Drlg. 3,085 ft.
Prairie and Slick's No. 1 Morgan, NW NE Sec. 33-16-1w .....Fishing 5,351 ft.
Eason Oil Co.'s No. 1 Young, C SW NE SW Sec. 34-17-4w..Drlg. 3,556 ft.

McINTOSH COUNTY

Patterson et al's No. 1 Smith, SW cor. NW SE Sec. 32-9-16 .....Shot 240 qts. 5,446-5,559 ft.; shot went off up hole; fishing.

MUSKOGEE COUNTY

Producers & Refiners' No. 1 Finklea, SE cor. Sec. 4-11-19 .....Location.
Becker & Hutchinson's No. 1 May, SE NE Sec. 16-12-19..Shut down 520 ft.
Sioux Oil Co.'s No. 1 Unknown, NW SE Sec. 21-11-19 ....Shut down 1,011 ft.

NOBLE COUNTY

Barnsdall's No. 1 Miksch, NW SW, Sec. 12-21-1 .....Location.
Weaver & Craigin's No. 1 Frederick, C SW NE Sec. 4-24-1w .....Shut down 2,425 ft.

OKFUSKEE COUNTY

Henry Oil Co.'s No. 1 Harjo, Sec. 36-12-9 .....Drlg. 3,290 ft.
E. L. Robinson's No. 1 Rice, NW Sec. 2-10-9 .....Location.
Shepard et al's No. 1 Neveas, SE NW SW Sec. 3-12-10..Shut down 3,661 ft.

OKLAHOMA COUNTY

Cromwell-Franklin's No. 1 Lincoln Park, SW cor. Sec. 12-12-3w .....Drlg. 4,474 ft.
L. C. Hivick's No. 1 Sunset Addition, NW SW NW Sec. 17-11-3w .....Drlg. 5,515 ft.
Mid-Kansas Oil & Gas Co.'s No. 1 Messer, SW cor. Sec. 32-14-3w .....Drlg. 6,588 ft.
Prairie and Slick's No. 1 Dill, SE NW Sec. 17-13-3w ....Shut down 6,821 ft.
Warr et al's No. 1 Castle, SW NW Sec. 20-11-3w .....Shut down 6,440 ft.
J. F. Cuniff, trustee's No. 1 Church Land, NE SW SE Sec. 17-12-4w .....Shut down 6,700 ft.
Magnolia and Ramsey's No. 1 Johnson, C NE SW Sec. 35-13-3w .....Drlg. 7,212 ft.
Ryan Consolidated's No. 1 Lawton, NE NW Sec. 3-11-2w..Drlg. 6,903 ft.

OSAGE COUNTY

Western American Oil Co.'s No. 1, NW SE Sec. 28-23-6 ..T. D. 3,032 ft.; abandoned.

PAWNEE COUNTY

Sperry et al's No. 1Mullrap, SE SW, Sec. 2-22-5 .....Rig.
L. E. Wentz' No. 1 G. Lilly, SE SW NE Sec. 26-22-3 ....Drlg. 1,960 ft.
Flynn & Morgan's No. 1 Jones, SW NE Sec. 22-20-5 ....Drlg. 2,680 ft.
Cochran et al's No. 1 Green, NE cor. SW Sec. 15-23-5 ..Rig.

PITTSBURG COUNTY

Morgan & Flynn's No. 1 Freeman, NW cor. Sec. 1-20-5..Drlg. 415 ft.

POTTAWATOMIE COUNTY

Apex et al's No. 1 Walker, NW SE, Sec. 18-7-13 .....Drlg. 50 ft.
The Texas Company's No. 1 Knight, SW SE Sec. 3-8-3 ..Drlg. 4,030 ft.

ROGER MILLS COUNTY

Bucy & Stone's No. 1 Williams, C SW Sec. 23-12-24w ....Shut down 2,245 ft.
L. C. Hivick's No. 1 Davis, C NW NE Sec. 4-11-26w ....Shut down 2,905 ft.

SEMINOLE COUNTY

Pure Oil Co.'s No. 1 Shaffer Ashby, SE NE Sec. 22-7-5 ..Wilcox 4,302-05 ft.; water; S.D.
Sunray Oil Co.'s No. 1 Sunday, NW SE Sec. 35-5-5 .....Location.

WASHITA COUNTY

Kauffman et al's No. 1 Nelson, NE cor. Sec. 1-8-14w ....Shut down 1,235 ft.
Petroleum Holdings, Inc.'s No. 1 Music, NW cor. Sec. 10-9-20w .....Shut down 280 ft.

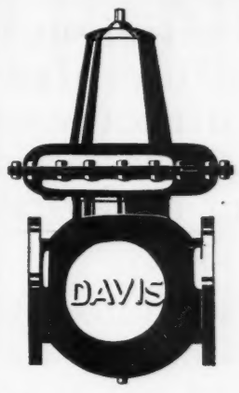
WOODS COUNTY

Gypsy-Prairie et al's No. 1 Thompson, SE cor. SW Sec. 10-25-15w .....Shut down 6,104 ft.
Sinclair Oil & Gas Co.'s No. 1 Showwalter, C SW SW Sec. 33-27-16w .....Drlg. 7,189 ft.

WOODWARD COUNTY

Farrond et al's No. 1 Unknown, SE cor. SW SE Sec. 2-22-17w .....Shut down 1,387 ft.
Prairie Oil & Gas et al's No. 1 Wilbur, NE cor. NW Sec. 22-23-17w .....Shut down 7,445 ft.

Tank Vapors have no sense—



—but you can conduct them into a vapor recovery system and extract their values if you have Davis Supersensitive Gas Relief Valves on duty.

These unusually sensitive Valves have made an enviable record in the oil industry. They are being used in ever-increasing numbers. Their simple design makes for accurate, dependable operation. Required attention is reduced to a minimum. The construction is weatherproof. Tank vapors passing to a compressor suction line through a Davis Supersensitive Gas Relief Valve are automatically controlled to within a fraction of an inch water gauge.

We'll be glad to send you Catalog 11, describing this and other units of the complete line of Davis automatic pressure and flow control equipment, on request.

DAVIS REGULATOR COMPANY
2543 Washtenaw Avenue
CHICAGO, ILLINOIS

WESTCOTT & GREIS, Inc.
Sales Engineers
TULSA LOS ANGELES DALLAS

Automatic valve makers for over fifty years

DAVIS VALVE SPECIALTIES

OGJ 9-4 Gray

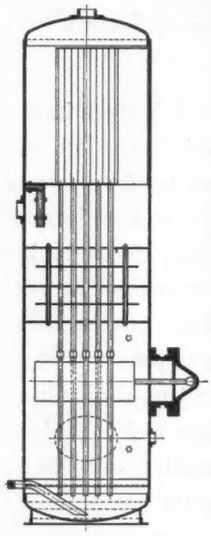
Billions of Bubbles

Oil and Gas Must Be Separated

THE efficiency of a gasoline plant depends directly on the ability of the oil-and-gas separator to separate the oil and gas.

A field separator that separates—that's what the industry has long been on the lookout for.

But now comes the Campbell Oil-and-Gas Separator, an adaptation of the celebrated MIST-D-FIER, and it *does* separate oil and gas.



OIL & GAS SEPARATOR

Write for descriptive literature or ask to see working model.

J. A. CAMPBELL CO.
Natural Gas Engineers
CONSULTING DESIGNING CONSTRUCTING
PHONE-416-93
P.O. DRAWER 669
LONG BEACH, CAL.

STEARNS-ROGER MFG. CO., DENVER
MID-CONTINENT AGENCY

Originators of Oil-Froth Absorbers

Burgoyne Brothers' No. 1 Merkins, SW cor. SE NE Sec. 15-21-19w ..... Shut down 1,910 ft.

OKLAHOMA PANHANDLE

CIMARRON COUNTY

Magnolia's No. 1 School Land, C SW NE Sec. 27-5-5 .... Drlg. 3,900 ft.

TEXAS COUNTY

Argus Prod. Co.'s No. 1 Fee, C SW, Sec. 36-5-14 ..... Rig.
Argus Prod. Co.'s No. 1 Fischer, C NW Sec. 29-6-14 ..... Location.
Argus Prod. Co.'s No. 1 Parker, C NW NW Sec. 18-6-15 ..... Rig on ground.
Three Way Oil Co.'s No. 1 Crane, SW NW Sec. 11-1-18 ..... Drlg. 4,280 ft.
Palo Alto Oil Co.'s No. 1 Graves, NE SW SW Sec. 23-2-18e ..... Spudded; shut down.

SOUTHERN OKLAHOMA

ATOKA COUNTY

Bryan-Croxton's No. 1 Mason, NW SE NW Sec. 4-1s-14.. Shut down 1,850 ft.
Brookshire's No. 1 Guinn, NW cor. Sec. 18-2s-10 ..... Shut down 100 ft.

BRYAN COUNTY

Bryan County Oil's No. 1 Childs, NW SE SW Sec. 8-7-10.. Drlg. 135 ft.
Bush et al's No. 1 Commerce Trust, NE cor. Sec. 35-6s-9 ..... Shut down 525 ft.
Johnson et al's No. 1 Ussery, SE SW SE Sec. 14-16s-7e... Shut down 485 ft.
Marshall's No. 2 fee, C SW SE NW Sec. 26-5s-7 ..... Shut down; 6-in. csg. 365 ft.

CARTER COUNTY

Campen-Lasater Co.'s No. 1 Anderson, NE cor. SE NE SE Sec. 32-4s-2 ..... Shut down 2,590 ft.

CHOCTAW COUNTY

Choctaw Petroleum Co.'s No. 1 Wilson, SW cor. SW Sec. 15-6s-19e ..... Shut down 1,345 ft.

COTTON COUNTY

H. J. Dillard's No. 1 McMillan, SE NW Sec. 2-4s-13w .... Drlg. 2,430 ft.

LOVE COUNTY

Hobbs et al's No. 1 Roberts, NE cor. SW Sec. 20-6s-3w .. Shut down 3,130 ft.
Gilcrease Oil's No. 1 Burkhart, NE NW Sec. 13-6s-1 .... Rig.

MARSHALL COUNTY

Pace et al's No. 1 Hicks, SW NW Sec. 8-6s-7 ..... Drlg. 930 ft.
McCrory et al's No. 1 Adams, NE SW SE Sec. 31-7s-6 ... Rig.
Akers et al's No. 1 Spicer, SW SE SE Sec. 33-5s-7e ..... Shut down 370 ft.

McCURTAIN COUNTY

Milton et al's No. 1 Vase, SW NW Sec. 26-6s-21 ..... Shut down 2,287 ft.

STEPHENS COUNTY

Obermyer et al's No. 1 Skelton, NE SW SW, Sec. 32-15-7w ..... Rig.
R. Southard's No. 1 McKinney, NE cor. Sec. 25-1-8n .... Shut down 1,060 ft.

WILDCAT OPERATIONS IN KANSAS

(Continued from Page 52)

DICKINSON COUNTY

Severs et al's No. 1 Lavengood, NE SW Sec. 13-13-2 .... Shut down 2,305 ft.
Kruger et al's No. 1 Dicha, C NW NE NE Sec. 17-13-4 ..... Shut down 2,935-43 ft.; water.
E. N. Morgan's No. 1 Whithair, NW SE Sec. 9-12-1 ..... Drlg. 3,103 ft.

DOUGLAS COUNTY

Steinbuckle's No. 1 Unknown, SW NE NW Sec. 34-14-21.. Shut down 1,100 ft.
Jenkins & Scott's No. 1 Haden, SE NW Sec. 10-12-17 .... Shut down 1,800 ft.

ELLIS COUNTY

Central Commercial Oil Co.'s No. 1 Helms, SE cor. NE Sec. 2-12-20w ..... Drlg. 3,460 ft.
Byrene et al's No. 1 Fisher, NW SE Sec. 4-11-20w ..... Shut down 1,000 ft.
Rush Oil Co.'s No. 1 Gatewood, NW cor. NW Sec. 4-15-20w ..... Shut down 3,750 ft.

ELK COUNTY

Croft & Frazier's No. 1 Keys, SE NE Sec. 26-31-10 ..... Drlg. 735 ft.

ELLSWORTH COUNTY

Aladdin and Carter Oil Co.'s No. 1 Barecky, C NW, Sec. 3-16-10w ..... Rig.
Slick et al's No. 1 Unknown, NW cor. Sec. 25-17-10w .... 3,000,000 ft. gas 2,495-2,500 ft.; drlg. 2,735 ft.

FORD COUNTY

Swain et al's No. 1 Kenthorne, C NW Sec. 21-25-24w .... Drlg. 3,610 ft.

GOVE COUNTY

Johnson and Atlantic's No. 1 Wright, SE NE Sec. 11-12-27w ..... Rig.
Valerius & Baucher Oil Co.'s No. 1 Todd, NW cor. Sec. 24-13-27w ..... Drlg. 3,685 ft.

GRAHAM COUNTY

Gulf Coast Oil Co.'s No. 1 Johnson, C S half Sec. 27-8-25w. Shut down 4,370 ft.
Naylor et al's No. 1 St. John, NW SE SE Sec. 27-8-25w.. Drlg. 4,731 ft.

GRANT COUNTY

McKenna et al's No. 1 Sullivan, NE cor. Sec. 12-29-38w.. Shut down 50 ft.

GREENWOOD COUNTY

Staats et al's No. 1 Swan, NE NW Sec. 3-25-12 ..... Rig.
Harwood Oil Co.'s No. 1 Log, SW NE Sec. 20-25-10 ..... Shut down 1,100 ft.
Mallory's No. 1 Denchfield, SE NW Sec. 12-27-9 ..... Shut down 1,810 ft.
Bundy, Smith & O'Neil's No. 1 Ford, NE NW Sec. 28-25-13 ..... Shut down 50 ft.
F. Konkay et al's No. 1 Rock, NW NE NE Sec. 7-27-12.. Shut down 1,836 ft.

HARPER COUNTY

Beeler et al's No. 1 Bear, C NE Sec. 21-31-6w ..... Shut down 1,830 ft.

KINGMAN COUNTY

Skelly Oil's No. 1 Miles, NE cor. Sec. 30-27-10w..... Rig.
Slick, Pryor & Lockhart's No. 1 Wetherall, NE SW Sec. 36-29-6w ..... Drlg. 2,305 ft.

KIOWA COUNTY

Phillips-Prairie's No. 1 Bean, NE SE Sec. 10-30-17w ..... Drlg. 3,658 ft.
McKenna et al's No. 1 Ralson, C NE Sec. 14-28-20w ..... Rig.

LYONS COUNTY

Griffith et al's No. 1 King, NW cor. Sec. 8-19-10 ..... Shut down 910 ft.

MARION COUNTY

Magnolia Pet. Co.'s No. 1 Davis, SE NW Sec. 18-21-2 .... Drlg. 2,250 ft.
Dixie and Arkansas Fuel's No. 1 Hacker, NW NE Sec. 6-17-1 ..... Drlg. 2,540 ft.
Marshall et al's No. 1 Higgins, NE cor. Sec. 33-19-5 .... Rig.

MARSHALL COUNTY

Swicker & Sincox's No. 1 Remple, C N half NW Sec. 22-4-9 ..... Shut down 1,245 ft.
Brazier et al's No. 1 Runkel, SE NW Sec. 13-2-6 ..... Shut down 50 ft.

McPHERSON COUNTY

Aladdin Pet. Co.'s No. 1 Larson, C NW Sec. 22-18-4w .... Rig on ground.
Simmons & Canary's No. 1 Bishop, NW SW Sec. 15-18-1w ..... Shut down 3,341-46 ft.; T. D. 3,415 ft.; abandoned.
Harry Skelly et al's No. 1 Neufeldt, SE NE Sec. 19-21-3w ..... Rig abandoned.

MORTON COUNTY

Argus Prod. Co.'s No. 1 Morgan, C NW Sec. 8-33-39w .... Rig on ground abandoned.
Argus Prod. Co.'s No. 1 Tillet, C SW Sec. 21-34-39w ..... Completed 2,592-2,840 ft.; 6,000,000 ft. gas.
Argus Prod. Co.'s No. 1 Sullivan, C NW Sec. 29-34-39w... Rigging up standard tools 2,536 ft.
Hydraulic Oil Co.'s No. 1 State Land, NW SE Sec. 22-34-43w ..... Drlg. 2,792 ft.; gas at 1,200-10 ft. and at 1,350 ft.

MORRIS COUNTY

Pratt et al's No. 1 Whiting, NW SW SW, Sec 34-16-6.... Location.
Henderson et al's No. 1 Selsman, SW SE Sec. 24-16-9 .... Rig.
Urschell et al's No. 1 Scott, NE NW Sec. 6-16-6 ..... Shut down 2,420 ft.

OSAGE COUNTY

Riggs & Smith's No. 1 Wood, SE NW Sec. 21-14-15 ..... Shut down 410 ft.

PAWNEE COUNTY

Skelly Oil Co.'s No. 1 Milhouse, C SE Sec. 34-23-71w ..... Drlg. 4,831 ft.

PRATT COUNTY

Wilcox O. & G. Co.'s No. 1 Bappin, SW NW Sec. 7-26-15w ..... Drlg. 4,353-57 ft.; water.

RENO COUNTY

Braden et al's No. 1 Thersen, SE NE, Sec. 6-22-4w..... Rig.
Alco Royalty's No. 1 Kinney, SE cor. Sec. 16-22-7w ..... Drlg. 450 ft.
Shell Pet. Corp.'s No. 1 Popp, NW cor. Sec. 11-25-5w .... Plugging back bad hole, 2,092 ft.
E. L. Study and H. L. Turner's No. 1 Haury, NE NW Sec. 1-23-4w ..... Drlg. 3,075 ft.
Phillips Pet. Co. and Tom Palmer's No. 1 Harsch, NE SE Sec. 14-26-5w ..... Drlg. 3,755 ft.
United Pet. Co.'s No. 1 Houston, NW cor. Sec. 4-22-10w.. Drlg. 2,922 ft.
C. A. Cheney and M. M. Valerius' No. 1 Stevens, C NE SE NE Sec. 6-26-7w ..... Drlg. 3,940 ft.

RICE COUNTY

United Pet. Co.'s No. 1 Willman, NE cor. Sec. 29-21-9w .. Drlg. 710 ft.
Gypsy Oil Co.'s No. 1 Koch, SE NE NW Sec. 35-20-9w .. Drlg. 3,250 ft.
Hershey Golden & Skelly's No. 1 Brandenstein, Sec. 10-19-10w ..... Drlg. 1,185 ft.
McPherson and Shell's No. 1 Jennings, NE SW NW Sec. 29-18-6w ..... Abandoned 3,539-54 ft.
Miller & Brown's No. 1 Schartz, Sec. 14-20-10w ..... Abandoned 3,423-32 ft.; water.
Hoffner, Lee & Shell's No. 1 Slad Farm Corp., C SW Sec. 33-19-6w ..... Drlg. 3,585 ft.
Tatlock et al's No. 1 Ploog, C SW SE Sec. 33-18-9w ..... Silicious lime 3,252-53 ft.; flowing 30 bbls. an hr. when shut in.

ROOKS COUNTY

Streeter-Stearns' No. 1 Conger, SE NW NE Sec. 16-10-16w ..... Shut down 250 ft.

RUSH COUNTY

Prairie et al's No. 1 Lecker, NW SW SW Sec. 5-16-18w .. Drlg. 2,389 ft.
Syndicate Oil Co.'s No. 1 Lannen, C SW Sec. 11-18-16w .. Location.
McPherson O. & G. Co.'s No. 1 Brack, C NW Sec. 24-17-16w ..... Drlg. 3,625 ft.
Syndicate Oil Co.'s No. 1 Mohr, C SW Sec. 2-18-16w ..... Drlg. 3,590 ft.
Danciger Oil & Refining Co.'s No. 1 Nave, NW cor. Sec. 26-17-17w ..... Total depth 3,606 ft.; shut down.

RUSSELL COUNTY

Streeter & Stearns' No. 1 Mitchell, SE cor. Sec. 6-15-14w.. Shut down 3,335-40 ft.; water.
Austin Drlg. Co.'s No. 1 Rochfellow, SE cor. Sec. 6-13-12w ..... Shut down 1,884 ft.
Gilbreath et al's No. 1 Bratton, C NE Sec. 33-11-13w .... Shut down 1,010 ft.

SEDGWICK COUNTY

Newman et al's No. 1 Bawly, SE NW NE Sec. 2-27-2 ... Drlg. 3,073 ft.
Tavender et al's No. 1 McLean, SE SW SE Sec. 23-26-1w ..... Abandoned 975 ft.

SALINE COUNTY

Twin Mounds Oil Co.'s No. 1 Weis, C W half NE NW Sec. 20-13-4w ..... Shut down 2,042 ft.

STAFFORD COUNTY

Boucher Oil's No. 1 Christenson, NW cor. Sec. 22-22-11w.. Drlg. 3,485 ft.
Boucher Oil's No. 1 Groves, NE cor. Sec. 9-22-11w ..... Shut down 2,930 ft.
Midwest's No. 36 Richardson, SE cor. Sec. 36-22-12w .... Shut down 3,305-08 ft.; 5,000,000 ft. gas.

STEVENS COUNTY

Argus Prod. Co.'s No. 1 Olsen, C SE Sec. 1-32-38w .... Spudding.
Argus Prod. Co.'s No. 1 Davis, C SW, Sec. 31-32-38w.... Rig.
Argus Prod. Co.'s No. 1 Headrick, C NW Sec. 9-35-37w .. Drlg. 2,514 ft.
Agate Oil Co.'s No. 1 Gregory, NW NE Sec. 19-33-38w .. Rigging up standard tools 2,470 ft
Argus Prod. Co.'s No. 1 Hershey, C NW Sec. 26-34-37w .. Drlg. 2,606 ft.
Argus Pord. Co.'s No .1 Ehrhard, C NW Sec. 11-35-39w .. Rigging up standard tools 2,538 ft.
Argus Prod. Co.'s No. 1 Wiley, C NE Sec. 4-35-37w ..... Drlg. 2,550 ft.
Argus Prod. Co.'s No. 1 Ridpath, C SE Sec. 27-34-37w ... Rigging up standard tools 2,530 ft.
Argus Prod. Co.'s No. 1 Gibbons, C SE Sec. 29-34-37w .... Rigging up standard tools 2,538 ft.
Argus Prod. Co.'s No. 1 Knier, C SW Sec. 27-34-37w .... Drlg. 2,585 ft.
Argus Prod. Co.'s No. 1 Harrison, C SW Sec. 30-34-37w .. Rigging up standard tools 2,412 ft.
Argus Prod. Co.'s No. 1 Irwin, C SE Sec. 10-35-37w ..... Rigging up standard tools 2,506 ft
Argus Prod. Co.'s No. 1 Libon, C NE Sec. 2-34-39w ..... Fishing 2,670 ft.
Braden et al's No. 1 Theisen, SE NE Sec. 6-22-4w ..... Rig on ground.
Mangle et al's No. 1 Youngren, C SE NW Sec. 24-32-39w ..... Shut down 2,523 ft.
McNabb and Mid-Kansas' No. 1 Rhinehart, C NE Sec. 23-32-39w ..... Rig.
McNabb et al's No. 1 Porter, Sec. 4-31-37w ..... Rigging up standard tools 2,448 ft.
W. Sidwell et al's No. 1 Kelly, SW cor. NE Sec. 16-34-38w ..... Shut down 1,600 ft.

SUMNER COUNTY

Magnolia Pet. Co.'s No. 1 Shriver, NW SW Sec. 9-23-2 .. Drlg. 2,005 ft.
Disney et al's No. 1 Fay, C E half SE Sec. 14-34-1w .... Rig.
Davidson et al's No. 1 Strickland, SW cor. SE Sec. 12-35-1w ..... Rig.

WASHINGTON COUNTY

Sincox et al's No. 1 Penwell, NW SE NE Sec. 16-3-3 .... Shut down 510 ft.

WILDCAT OPERATIONS IN NEBRASKA

FRANKLIN COUNTY

U. R. Drlg. Co.'s No. 1 Brunkle (twin well), C NW SW NE Sec. 2-3n-13w ..... Rig.

CHASE COUNTY

Chase Pet. Co.'s No. 1 Ingold, C NE Sec. 24-6n-38w ..... U. R. 5-in. csg.; T. D. 4,265 ft.

FURNAS COUNTY

Southwestern Pet. Corp. of Nebraska's No. 1 Montague, SE SW NW Sec. 28-1n-22w ..... Shut down 1,750 ft.
Graham Bros.' No. 1 Edwards, NW SW Sec. 13-2n-22w... Shut down 3,250 ft.

PHELPS COUNTY

Trees Oil's No. 1 Bergan, Sec. 22-6-19w ..... Rig on ground.

RICHARDSON COUNTY

Norton et al's No. 1 Albin, NE cor. Sec. 26-1-14 ..... Drlg. 2,500 ft.

ROCK COUNTY

North Central Dev. & Drlg. Co.'s No. 1 Leonard, SE cor. NE Sec. 14-32-18w ..... Drlg. 900 ft.

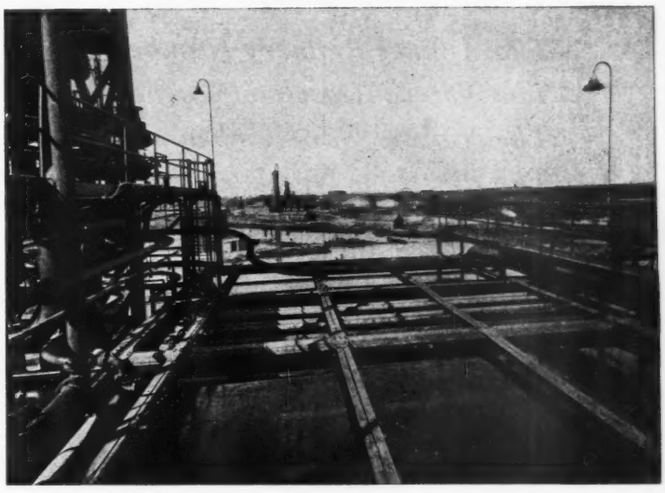
WEBSTER COUNTY

Mid-Kansas Exploration Co.'s No. 1 Platt, C SE one-half Sec. 2-1n-11w ..... Drlg. 2,370 ft.

SUMMARY OF STATEMENTS MADE AUGUST 10, 1930, RELATING TO BUSINESS OF VARIOUS PIPE LINES FOR MONTH ENDING JULY 31, 1930

	Gross stocks	Runs from wells	Other receipts	Regular deliveries	Other deliveries
Nat. Transit	825,073.45	339,540.44	549,801.97	446,349.71	564,677.20
S. W. Pa. P. L.	480,083.44	92,523.81	505,436.41	259,734.68	331,964.12
Eureka P. L.	1,707,911.42	356,585.89	389,948.80	265,118.12	272,668.37
Buckeye P. L. (Macksburg)	750,760.45	371,564.16	48,532.56	205,283.26	169,504.82
Buckeye P. L. (Lima, etc.)	5,030,489.35	105,474.77	1,469,093.56	1,297,607.97	676,220.28
Buckeye P. L. (Cleveland)	63,047.96	10,605.56	46,519.90	2,195.10	48,164.13
Indiana P. L.	771,951.56	4,832.54	2,403,803.63	1,364,012.03	1,068,414.04
Cumberland P. L. ...	585,644.30	190,812.48	952.60	254,880.86	.....
Southern P. L.	311,660.33	.....	179,773.39	68,841.69	108,470.54
Bradford Trans.	237,709.63	340,930.40	.....	460,403.94	.....
N. Y. Transit	152,450.75	30,601.75	135,168.61	171,500.30	32,434.15
Northern P. L.	338,838.05	.....	200,414.57	182,471.98	177,135.05
Tide Water Pipe	1,193,758.34	31,075.50	.....	340,105.46	.....
Tuscarora Dev.	278,310.90	.....	.....	466,572.46	.....
Total July 31 ...	12,728,189.93	1,874,547.30	6,029,446.60	5,785,077.82	3,449,652.70
Total June 30 ..	13,071,882.98	2,012,896.06	7,701,004.14	6,241,592.72	4,387,147.59
Difference	343,693.05	138,348.76	1,671,557.54	456,514.90	937,494.89

SIMPLEX PIPING



in the cracking unit of a large Oklahoma refinery

SHOWN above is another typical installation of Simplex Piping. As in other cases, Simplex Piping was selected for this refinery job because it resists the corrosive action of refinery condensates, because it is furnished in long lengths, because it presents a maximum number of square feet of condensing area per joint, because it requires fewer joints, because it permits rapid assembly, because it reduces leakage to a minimum, because it is easy to handle, and because it has no fins or other protrusions to break off in handling. When you check these advantages against any other piping you may have in mind, you'll select Simplex Piping for *your* job!

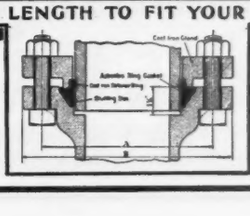
Write for your copy of the "Simplex Cast Iron Condenser Piping Handbook." It contains coil designs that will interest you.

AMERICAN CAST IRON PIPE COMPANY
BIRMINGHAM, ALABAMA
Branches: New York City, Chicago, Minneapolis, Cleveland, Kansas City, Dallas, Detroit, San Francisco, Los Angeles, Seattle

SIMPLEX
CAST IRON CONDENSER PIPING

FURNISHED ANY LENGTH TO FIT YOUR BOX

WITH THE FAMOUS SIMPLEX CONDENSER »JOINT«



Protect Yourself Now

In the course of a year The Oil and Gas Journal publishes several special issues devoted to particular divisions of the oil business.

These special issues include:

The Annual Refinery Number
The Natural Gasoline Number
The Natural Gas Number
The Pipe Line Number

The demand for these special editions is always greater than we can meet. By being a regular subscriber you are assured of receiving every issue. Subscribe today.

The OIL and GAS JOURNAL
PRODUCING REFINING MARKETING
TULSA, OKLA.

DIES, JIGS, FIXTURES
SPECIAL MACHINERY

Parts Manufactured in Quantities with the same degree of accuracy as we put into our own products.

BART PRODUCTS COMPANY, Inc.
Precision Machinists
Bartlesville, Oklahoma

BUDA ENGINES
SALES—SERVICE—PARTS
TWIN DISC CLUTCHES
FULLER & JOHNSON POWER UNITS
GURNEY BALL BEARING
Distributors Oklahoma and Kansas
BUDA ENGINE SERVICE OF TULSA
521 West Archer Street
TULSA, OKLA.

NEW LOCATIONS IN TEXAS PANHANDLE AND NORTH AND WEST TEXAS FIELDS

TEXAS PANHANDLE

Carson County

Shamrock Oil & Gas Co.'s No. 1 J. E. Duncan, 330 feet north and east of the SW cor. NE, Section 5, Block 7, I.&G.N.

Empire Gas & Fuel Co.'s No. 1 M. Sims, 2,310 feet south and 990 feet west of the NE cor., Section 12, Block 7, I. &G.N. Survey.

Collingsworth County

L. L. Dixon and others' No. 1 H. E. Bell, 330 feet south and 1,320 feet east of the NW cor. NW, Section 102, Block 21, H.&G.N.

Gray County

British American Oil and Shell Petroleum Corp.'s No. 3 A. Smith, 990 feet south and 330 feet west of the NE cor. E half NW, Section 138, Block 3, I.&G. N. Survey. Empire Gas & Fuel Co.'s No. 2 W. C. Archer-B, 330 feet north and west of the SE cor. SW, Section 139, Block 3, I.&G.N. Survey. Same company's No. 2 R. J. Sailor, 330 ft. south and east of the NW cor. NE, Section 138, Block 3, I.&G.N. Survey. Same company's No. 3 R. J. Sailor, 330 ft. north and west of the SE cor. NW NE, Section 138, Block 3, I.&G.N. Survey.

Adams & McGahay's No. 5 J. S. Morse, 330 feet south and west of the NE cor. S half NE, Section 2, Block 26, H.&G.N. Alexander & Bean's No. 1 R. B. Thompson and others, 330 feet north and east of the SW cor. NW, Section 126, Block 3, I.&G.N. Atlantic Oil Producing Co.'s No. 1 E. E. Reynolds, 330 feet south and east of the NW cor. NE SE, Section 84, Block 3, I.&G.N. A. Beck's No. 1 R. Sullivan, 330 feet south and west of the NE cor. W half NW, Section 135, Block 3, I.&G.N. Operators Royalty & Production Co.'s No. 1 M. S. Arnold, 330 feet north and west of the SE cor. E half NE, Section 149, Block 3, I.&G.N. Same company's No. 4 W. W. Harrah, 330 feet north and east of the SW cor. NE, Section 150, Block 3, I.&G.N. Same company's No. 6 W. W. Harrah, 990 feet north and east of the SW cor. NE, Section 150, Block 3, I.&G.N. The Texas Company's No. 4 W. W. Harrah, 330 feet south and 990 feet west of the NE cor. SE, Section 150, Block 3, I.&G.N. Wilcox-Pampa Oil Co.'s No. 19 Combs & Worley, 330 feet north and east of the SW cor. NW, Section 35, Block 3, I.&G.N. Same company's No. 34 Worley & Reynolds, 330 feet north and 990 feet west of the SE cor. NE, Section 84, Block 3, I.&G.N. Gulf Production Co.'s No. 1 R. B. Thompson and others, 330 feet south and east of the NW cor. SW, Section 126, Block 3, I.&G.N.

Hutchinson County

Sinclair Oil & Gas Co.'s No. 1 Johnson Brothers-C, 330 feet south and east of the NW cor. NE, Section 32, Block Y.

Huber Production Co.'s No. 1 Johnson Brothers (Kelly), 330 feet south and west of the NE cor. E half NW, Section 30, Block Y. Hubert Production Co.'s No. 1 Johnson Brothers (Pure), 330 feet north and west of the southeast corner of the east 220 acres of the north 320 acres of Section 29, Block Y.

Oldham County

Chambers and others' No. 1 E. Herring, at the middle of the north line of Section 29, Block S, G.C.&S.F. Survey.

Wheeler County

Davis and others' No. 1 Stuckey, C NE SW, Section 92, Block 17, H.&G.N. Lone Star Gas Co.'s No. 2 H. Close, C SW SW, Section 78, Block 23, H.&G.N. Same company's No. 1 J. Krizan, C SW SW, Section 101, Block 23, H.&G.N. C. Vollmert's No. 1 J. R. Porter, 330 feet north and west of the SE cor. NE, Section 15, Block 27, H.&G.N.

NORTH CENTRAL AND WEST TEXAS

Archer County

Steele Drilling Co.'s No. 1 C. A. Mangold, 150 feet south and east of the northwest corner of the east 40 acres of the north 80 acres of Section 29, Mangold Subdivision. E. S. Bell's No. 1 H. L. Morrison, 1,132 feet south and 750 feet west of the NE cor., Section 2,403, T.E.&L. P. C. and A. A. Brashear's No. 1 J. T. Richardson, 150 feet north and west of the southeast corner of the west 70 acres of Section 12, Thomas McCoy Survey A-269. Panhandle Refining Co.'s No. 1 W. Duckworth and wife, 150 feet south and east of the northwest corner of the south 96.16 acres of Section 4, Club Ranch Subdivision. Steele Drilling Co.'s No. 1 John Doty, 150 feet north and 450 feet east of the southwest corner of the north 22 acres of the west 100 acres of Section 62, Club Ranch Subdivision. Steele Drilling Co.'s No. 1 Mrs. C. A. Montgomery, 150 feet south and east of the northwest corner of the south 50 acres of the west 100 acres of Section 133, Club Ranch Subdivision.

Holbrook & Woods' No. 1 J. C. Thomas, 150 feet north and east of the southwest corner of the east 56 acres of the north 106 acres of the J. C. Thomas 213.3-acre tract out of the Thomas Freeman Survey, A-134. Ellzey & Crowell's No. 2 S. J. Hayter, 150 feet north and 450 feet west of the southeast corner of the south 15 acres of the S. J. Hayter 95-acre tract out of Section 2,402, T.E. &L. Survey. Flake & Harmon's No. 1 J. A. Bell, 1,731 feet south and 150 feet east of the NW cor., Section 14, Block 5, Clark & Plub Subdivision. Gray & Johnson's No. 1 S. Webb, 150 feet north and east of the southwest corner of the west 40 acres of the south 120 acres of the north 240 acres of the S. Webb 465-acre tract out of I.&G.N. Survey, A-239. P. F. Gwynn and others' No. 1 Falls County School Land, 150 feet south and east of the NW cor., Section 20, Falls County School Land, A-130. H. P. Key's No. 1 M. L. Porter, 150 feet south and 1,319 feet east of the northwest corner of the P. I. Bailey Survey, No. 27, A-30. Pandem Oil Corp.'s No. 1 Young-Murrell, 450 feet south and 150 feet west of the NE cor. NW SE, Section 2,426, T.E.&L. Survey. C. S. Starr and others' No. 1 W. R. Pace, 150 feet north and 450 feet west of the SE cor. NW, Section 112, Club Ranch Subdivision.

Brown County

Tex Cal Oil Co.'s No. 5-B J. C. Martin and others, 1,050 feet south and 1,150 feet east of the most westerly NW cor. of the J. C. Martin and others' tract out of Section 11, H.T.&B.

Humble Oil & Refining Co.'s No. 24 A. W. Armstrong, 1,830 feet south and 450 feet east of the NW cor., Section 1, J. Delago Survey, No. 789. R. C. McCarter and others' No. 2 T. B. Buzbee, 200 feet south and east of the northwest corner of the south 80 acres of Section 30, H. P. Brewster Survey, No. 790. H. H. Simons' No. 1 T. M. Edmondson, 150 feet south and east of the northwest corner of the east 80 acres of the T. Townsend Survey, A-923. Leiner & Walker's No. 2 J. A. Rutherford, 400 feet south and 800 feet west of the northeast corner of the J. A. Rutherford tract out of the G. Bunson Survey, No. 66.

Callahan County

D. Beams and others' No. 1-E I. N. Jackson, 1,670 feet north and 970 feet west of the SE cor., Section 21, E.T.R.R. Bradstreet & Holden's No. 1 W. T. Wilson, 200 feet south and 303 feet east of the NW cor. E half, Section 82, Comal County School Land.

Coleman County

P. Shields and others' No. 1 C. W. Martin, 750 feet south and 250 feet east of the northeast corner of the W. F. Murray Survey, No. 282, A-1,346, and located in the M. Benites Survey, No. 670. B. Elmore and others' No. 1 P. Rehm, 2,860 feet south and 1,805 feet west of the northwest corner of the S. Leisure Survey, No. 368, and located in the J. D. Knox Survey, No. 367. Breeding and others' No. 1 M. Barker, 750 feet north and 150 feet east of the SW cor. NE, Section 105, E.T.R.R. Survey. Joines and others' No. 1 J. B. Turner, 2,585 feet north and 3,810 feet east of the southwest corner of the W. Skurlock Survey, No. 280. L. Smith and others' No. 4 S. E. Switzer, 2,975 feet north and 1,100 feet east of the southwest cor-

ner of the W. Farris Survey, No. 279. A. T. Wright and others' No. 1 A. J. and C. H. Reaves, 1,926 feet north and 1,888 feet east of the southwest corner of the H. Rhodes Survey, No. 631.

Clay County

Mid-Continent Holding Corp.'s No. 6-A J. D. Stine and others, 450 feet north and 150 feet east of the SW cor., Section 7, Parker County School Land, A-374.

Comanche County

Corvette Oil Corp.'s No. 5 L. Poteet, 300 feet north and 750 feet east of the SW cor. NW, Section 45, Deaf and Dumb Asylum Land.

Collin County

Breckenridge Oil Co.'s No. 1 M. C. McPheran, 300 feet south and east of the NW cor., J. C. Neil Survey.

Cooke County

Lloyd Oil Corp.'s No. 1 J. M. Jones, 150 feet north and 238 feet east of the southwest corner of the south 80 acres of the north 96 acres of the J. M. Jones 240-acre tract out of the J. Strickland Survey A-929. Danciger Oil & Refining Co.'s No. 1 Field & Bowers, 183 feet south and 120 feet east of the most northerly northwest corner of the Field & Bowers tract out of the C. F. Stanley Survey A-904. Fain-McGaha Oil Corp.'s No. 4 J. W. Chaffin, 450 feet north and west of the NW cor., W. C. Davis Survey A-308, and located in the E. Reed Survey A-849.

Crane County

Gulf Production Co.'s No. 83 J. T. McElroy, 2,762 feet south and 330 feet east of the NW cor. of the Gulf Production Co.'s lease out of Section 200, Block F, C.C.S.D.&R.G.N.G.

Cranfill Brothers Oil Co.'s No. 1 J. T. Muir, 330 feet south and 2,310 feet east of the NW cor., Section 23, Block B-27, Public School Land.

Eastland County

Lone Star Gas Co.'s No. 1 T. J. Smith, 1,230 feet south and 1,160 feet west of the NE cor., Section 482, S.P.R.R. Survey. Southern Oil & Producing Co. and others' No. 1 B. W. Martin, 2,750 feet south and 2,250 feet west of the NE cor., Section 80, Block 4, H.&T.C. Survey.

Ector County

Simms Petroleum Co. and others' No. 4 University Land, 1,650 feet north and 1,320 feet west of the SE cor., Section 1, Block 35, University Land.

Fisher County

Cranfill & Reynolds' No. 3 B. F. Willingham, 330 feet north and west of the SE cor., Section 207, B.B.B.&C.

Hamilton County

J. McCamey and others' No. 1 G. R. Edison, 2,243 feet southwest of the northeast line and 777 feet northwest of the southeast line of the William J. Merrifield Survey, No. 48.

Hudspeth County

G. R. Theison's No. 1 University Land, 2,050 feet north and 2,225 feet west of the SE cor., Section 17, Block E, University Land.

Irion County

J. W. Bristow and others' No. 1 J. M. Nutt, 180 feet south and west of the NE cor. SW NW, Section 6, Gonzales County School Land. Straughan & Texannati Oil Co.'s No. 1 F. Tankersley, 150 feet north and 750 feet east of the SW cor., Section 4, G.C.&S.F.

Menard County

J. Barnett and others' No. 4 Callan City Co., 1,200 feet north and 2,200 feet east of the SW cor., Section 1, B.S.&F. Survey.

Montague County

United Producers and Petroleum Production Co.'s No. 1 P. Howard and others, 150 feet north and east of the southwest corner of the north 40 acres of the south 60 acres of the west 80 acres of the north half of the P. Howard and others' 640-acre tract out of the F. Robertson Survey A-620.

Pecos County

Cardinal Oil Co.'s No. 4 J. H. Tippett (Kirby), 150 feet north and west of the SE cor. W half, Section 40, Block 194, G.C.&S.F. Survey.

Reagan County

Texon Oil & Land Co.'s No. 4-B University Land, Group No. 1, 1,120 feet south and 1,100 feet east of the NW cor., Section 36, Block 9, University Land.

Shackelford County

A. M. Howsley and others' No. 1 Z. W. Casey, 150 feet southeast of the northwest line and 1,350 feet northeast of the southwest line of Section 581, T. E.&L. Survey.

Stephens County

Rhodes & Highers' No. 1 J. B. Hudspeth, 400 feet south and 525 feet east of the NW cor. SW, Section 7, Block 4, T.&P. Survey.

Texas Pacific Coal & Oil Co.'s No. 5 R. Q. Lee, 1,800 feet south and 990 feet east of the NW cor., Section 15, Block 4, T.&P. J. Price's No. 1 P. J. Bruce, 330 feet north and west of the SE cor. NE, Section 51, Block 6, T.&P. O. F. Striplin's No. 1 S. L. Harris, 330 feet north and east of the SW cor. N half S half, Section 31, Block 6, T.&P.

Sterling County

W. C. Beesley and others' No. 1 W. B. Brown, 2,940 feet north and 300 feet west of the SW cor., Section 7, Block 22, H.&T.C. Survey and located in Section 16, Block 31, Township 4s, T.&P. Survey.

Taylor County

Sanger Oil & Refining Co.'s No. 1 W. H. Osborn, 330 feet north and east of the SW cor. SE, Section 68, Blind Asylum Land.

Ward County

Gulf Production Co.'s No. 13 O'Brien and others, 330 feet north and 2,315 feet east of the SW cor., Section 6, Block 5, G.M.M.B.&A. Same company's No. 14 O'Brien and others, 330 feet north and west of the SE cor., Section 15, Block F, G.M.M.B.&A.

Wichita County

Arkansas Fuel Oil Co.'s No. 39 Kemp & Kempner-A, 500 feet south and 150 feet west of the southeast corner of Block 81, Kemp Wichita Valley Land and located in Block 82. J. O'Neil's No. 3 W. B. Honaker, 3,228 feet south and 1,170 feet east of the NW cor., Section 1, C.&M. Survey, A-379, being 150 feet north and west of the southeast corner of his 26-acre lease. J. O'Neil's No. 1 W. T. Waggoner, 1,188 feet south and 1,950 feet east of the NW cor., Section 13, H.T.&B. Survey, A-137. Turman Oil Co.'s No. 20 W. T. Waggoner, 250 feet south and 1,650 feet west of the NE cor., Section 148, H.&T.C. Survey, A-784.

R. R. Clark and others' No. 8 W. P. and J. F. Bickley, 150 feet south and west of the NE cor., Section 2, C.&M., A-594. Douglas Production Co.'s No. 1 Douglas Production Co., 150 feet north and 375 feet east of the SW cor., Section 287, Waggoner Colony Subdivision. J. O'Neil's No. 2 W. B. Honaker, 2,670 feet south and 1,150 feet east of the NW cor., Section 1, C.&M., A-379.

Wilbarger County

Fisher and others' No. 1 W. T. Waggoner, 150 feet north and 250 feet east of the SW cor. SW NW, Section 51, Block 14, H.&T.C. Survey. Lido Oil Co.'s No. 7 W. T. Waggoner-C, 150 feet south and west of the NE cor. SW, Section 51, Block 2, H.&T.C. Survey.

Upton County

Penn Oil Co. and Shell Petroleum Corp.'s No. 1 T. M. Anderson, 1,320 feet north and west of the SE cor., Section 37, Block Y, T.C.R.R. Survey. Gulf Production Co.'s No. 1 King Ranch Oil & Lignite Co., 330 feet north and 990 feet east of the SW cor., Section 28, Block 2, M.K.&T. Survey.

Young County

Ard & Son's No. 2 G. W. Terrell estate, 150 feet north and 450 feet east of the SW cor., Section 255, T.E.&L. Survey. F. E. Butler's No. 1 W. T. Finch, 150 feet south and west of the NE cor. S half NE, Section 31, T.E.& L. Survey. G. B. Chandler's No. 1 J. Kilcrease, 150 feet north and west of the southeast corner of the south 15 acres of the west 50 acres of the S half, Section 1,809, T.E.&L. Survey. Cunningham & Lynch's No. 1 G. P. Stewart, 450 feet south and east of the NW cor., Section 10, Young County School Land, A-1,284.

Disney & Murrell's No. 1 A. V. Trueheart, 896 feet south and 150 feet east

Your Own Problems

solved by a specialized Ball and Seat . .

A Nu-Alloy, Nu-Bronze or Nu-Steel Ball and Seat that meets the problems of wear and tear in your crude—whether sand, lodestone, corrosion, or what not. We are pioneers in supplying these scientifically correct balls and seats for each field. Backed by modern precision manufacture and real speed in delivery. Compare — on the job!

PETROLEUM EQUIPMENT CO.
of Texas, Incorporated
Plant & Office: Fort Worth. Jon R. Long, Mgr.

Fast!

WHEN THE MINUTES COUNT—WITHIN 2 HOURS AFTER YOUR ORDER IS RECEIVED, YOUR SUPPLY STORE CAN SECURE SHIPMENT OF NU-ALLOY BALLS AND SEATS.

THERE ARE OTHER PUMPING EQUIPMENT SPECIALTIES IN OUR CATALOG YOU OUGHT TO KNOW ABOUT. WRITE FOR IT.

BUDA ENGINE

A Parts Service

TWIN DISC CLUTCHES

Prompt
Efficient
Accurate

Waukesha Ricardo Head

Distributed by

THE JNO. MULLER COMPANY

COMPLETE REBUILDING SERVICE FOR ANY KIND OF ENGINE

316 Throckmorton Street Fort Worth, Texas

Gott *Water Cans & Coolers*

". . . Have a cool supply of clean-pure sparkling water . . . ready to drink at all times. No matter where you are the GOTT Water Can is health insurance. Your supply store has them."

GOTT Water Cans 1½ gal; 3 gal; 5 gal; and 10 gal.

GOTT Water Coolers 3 gal; 5 gal; 8 gal; 10 gal; and 20 gal.

Gotkool

H. P. GOTT MFG. CO. · Winfield, Kansas

KEEP PURE DRINKING WATER ALWAYS HANDY

The arrow points to one of the gills of the Byrne Revolving Ventilators. These slits keep it on an even keel while revolving and provide just the right amount of suction.

BYRNE

Revolving Ventilator built light, strong and compact as an airplane

Over 15,000 Byrne Ventilators are in use, both revolving and stationary—the reason they do the work better.

The Byrne Stationary Ventilator. Note the size of the weather guard and its sturdy construction.

Manufactured by

TULSA SHEET METAL CO.
13-15 South Lansing
TULSA, OKLAHOMA

Simplex Jacks

for Oil Field Service and Every Type of Industry

including Utilities-Railways-Mining-Contractors-Pole Pulling-Pipe Pushing-Cable Reel Jacks-Simplex Screw Jacks - with the Visible Screw.

Distinctive in Man Power, Safety & Simplicity.

At your Supply House

Templeton, Kenly & Co., Chicago, U.S.A.

The World's Largest Manufacturers of Jacks

DUQUESNE GAS COMBUSTION UNITS

ECONOMICAL—RELIABLE—EFFICIENT

Eliminate Guess Work—Prevent Back Firing—Eliminate Vibration—Operate on Low Gas Pressure—Prevent Burned-Out Tubes.

Hundreds of installations testify to their operating efficiency and economy.

Write for information.

SWINDELL-DRESSLER CORPORATION
P. O. Box 1753 Pittsburgh, Pa.

MINERAL AND OIL LANDS

GEOPHYSICAL PROSPECTING

Swedish American Prospecting Corp.
26 Beaver Street, New York, N. Y.
2608 Baldwin Street, Houston, Texas
Cable Address: Isopotent, New York.

Swedish American Prospecting Co. of Canada, Limited
Lumsden Building, Toronto 2, Ont.

Aktiebolaget Elektrisk Malmletning
(The Electrical Prospecting Co.)
Wahrendorfsgatan 4.,
Stockholm, 16, SWEDEN
Cables: Prospecting, Stockholm

In Association with SEISMOS LIMITED, Hanover, Germany

of the NW cor., Section 612, T.E.&L. Survey. W. R. Fullerton's No. 2 Belknap Coal Co., 450 feet south and 1,350 feet west of the NE cor. S half NE. Section 2,250, T.E.&L. Survey. F. H. Gose's No. 1 Wilson & Allison, 150 feet north and east of the southwest corner of the north 80 acres of the E half, Section 2,448, T.E.&L. Survey. J. H. Kleiner's No. 1 J. and C. Graham, 150 feet south and east of the northwest corner of the south 112 acres of the J. and C. Graham 200-acre tract out of Section 2,249, T.E.&L. Survey. S. G. McClintock's No. 1 G. R. Bishop, 800 feet north and 1,100 feet east of the southwest corner of the west 100 acres of the N half, Section 347, T.E.&L. Survey. McDonald & Campbell's No. 1 B. Furr and others, 150 feet south and east of the NW cor. SE, Section 36, T.E.&L. Survey. McDonald & Campbell's No. 1 W. L. Holder, 1,450 feet south and 1,835 feet west of the NE cor., Section 30, T.E.&L. Survey. Panhandle Refining Co. and others' No. 5 A. C. Watson, 1,259 feet north and 847 feet east of the SW cor. NE, Section 249, T.E.&L. Survey. A. H. Park's No. 1 C. W. Johnson, 150 feet south and west of the northeast corner of Lot 5, Richardson Brothers Subdivision, E. W. Sergeant Survey, A-253. Parks & Stastny's No. 1 D. Orr, 1,350 feet south and 1,650 feet east of the NW cor., Section 1,922, T.E.&L. Survey. R. Seitz' No. 1 W. J. Finch and others, 150 feet north and west of the southeast corner of the east 20 acres of the north 40 acres of the NE, Section 31, T.E.&L. Survey. Westheimer & Daube's No. 9 B. H. Larimore and others, 450 feet north and 750 feet east of the SW cor. S half NW, Section 2,247, T.E.&L. Survey. Same company's No. 10 B. H. Larimore and others, 450 feet north and 1,050 feet east of the SW cor. S half NW, Section 2,247, T.E.&L. Survey. C. C. Williams' No. 1 Robert Bullock, 596 feet north and 450 feet east of the SW cor., Section 261, T.E.&L. Survey. C. C. Williams' No. 1 B. Furr and others, 150 feet north and east of the SW cor., Section 325, T.E.&L. Survey. Young Brothers and Terrell's No. 3 J. F. Larimore, 450 feet south and east of the northwest corner of the north 40 acres of the south 80 acres of the west 160 acres of Section 253, T.E.&L. Survey. F. Barron's No. 2 J. Kisinger, 150 feet north and 250 feet east of the southwest corner of his 20-acre lease out of the J. Conn Conner Survey, A-57. Brown and others' No. 1 M. Morgan and others, 1,580 feet south and 1,320 feet east of the NW cor., Section 3,413, T.E.&L. Survey.

Akin & Rayzor's No. 1 O. Deitrich, 150 feet south and west of the northeast corner of the east 12.5 acres of the south 37.5 acres of the O. Deitrich 150-acre tract out of the G. W. Stell Survey A-256. J. A. Bearman's No. 1 Carroll Baldwin estate, 150 feet north and 450 feet west of the SE cor. NW, Section 20, T.E.&L. J. W. Fuller's No. 1 J. Kennedy, 450 feet north and 1,650 feet west of the SE cor., Section 1,936, T.E.&L. McKanna and The Texas Company's No. 1 S. R. Jeffery, 150 feet south and west of the northeast corner of the west 100 acres of the south half of Section 42, T.E.&L. McKanna and The Texas Company's No. 1 B. Kasterson, 150 feet north and 450 feet west of the SE cor. W half NE. Section 39, T.E.&L. W. M. Scott's No. 6 E. C. Keith, 150 feet south and east of the northwest corner of the north 20 acres of the east 60 acres of the south half of Section 268, T.E.&L. Young Brothers and Alexander's No. 6 E. M. Remington, 450 feet south and 150 feet east of the NW cor. W half NW, Section 2,248, T.E.&L.

Corrections

In Archer County: J. C. Hickernell's No. 1 Turbeville, 450 feet south and 150 feet west of the NE cor. E half NW, Section 62, Jefferson County School Land, A-240. E. S. Bell's No. 1 H. L. Morrison, 1,132 feet south and 750 feet west of the northeast corner of the H. L. Morrison 277.9-acre tract out of Section 2,403, T.E.&L. Survey.

In Pecos County: The California Co.'s No. 11 M. A. Smith, Lease 1, Section 23, 1,000 feet south and 330 feet east of the NW cor., Section 23, Block 194, G.C.&S.F. Survey.

In Wilbarger County: L. W. Popp's No. 1 W. T. Waggoner, 150 feet south and 1,770 feet west of the SE cor., Section 101, Block 14, H.&T.C. Survey and located in the J. Poitevent Survey, No. 28.

In Young County—Brazos River Oil & Gas Co.'s No. 2 R. R. Clayton, 990 feet north and 2,257 feet west of the SE cor., J. Mathews Survey A-398. G. A. Alexander's No. 1 S. R. Jeffery, 150 feet north and east of the SW cor. NE, Section 57, T.E.&L.

EASTERN FIELDS

(Continued from Page 85)

2,000 feet with oil in the 6-inch. It is estimated it will make a 10-bbl. pumper.

In Grant district, Ritchie County, P. N. Rinehart is drilling in No. 3 on the T. E. Moore farm. It produced 10 bbls. the first 24 hours and has about 900 feet of fluid in the hole. The well is in the Salt sand. In Reedy district, Roane County, the Heck Oil Co. is testing the Berea sand on the A. W. Thorn farm, and it is making a small showing of oil and the well is waiting on a shot.

The Hope Natural Gas Co. completed No. 7,491 on the J. A. Cathers farm in Skin Creek district, Lewis County. It was a test well and drilled to the Big lime at 1,300 feet and will make a 4-bbl. pumper. In Monongalia County the J. H. McDermott and Moore Tex Oil Co. now have their test well on the N. A. Moore farm plugged to the Injun sand and cleaned out and it is good for 2 bbls. a day. In Reedy district, Roane County, the Heck Oil Co. completed its test on the C. O. Smith farm to the Berea and it is showing for a 2-bbl. pumper.

Gas Wells

In Boone County, Godfrey L. Cabot drilled his No. 21 on the Federal Coal Co. property deeper to the Brown shale at 3,425 feet and it will make a fair gas well. This is in Sherman district. On the same property, Godfrey L. Cabot completed No. 39 at 3,004 feet and it is showing for a gas well. In the same district and on the Nelson Land & Oil Co. property, Godfrey L. Cabot completed No. 7 at 3,120 feet and it is a small gas well.

In Braxton County the Philadelphia Natural Gas Co. drilled its test on the Louis Bennett farm in Birch district deeper to the Berea at 2,982 feet and it is dry and being abandoned. C. B. Lewis and others completed their test on the L. J. Morris farm in Sherman district, Calhoun County. It was drilled to the Injun sand at 2,150 feet and is showing for 500,000 feet. In Clay County, Godfrey L. Cabot completed his test on the Hill Long farm in Pleasant district to a depth of 3,655 feet and it is dry.

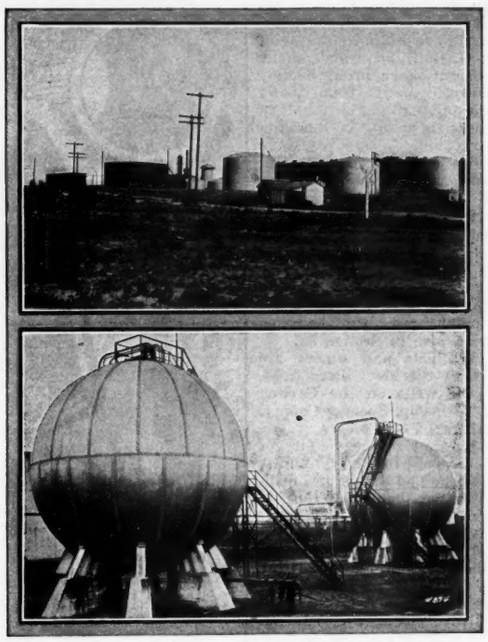
In Mason County, Graham district, the E. C. Moffett Drilling Co. drilled its test on the William Newton heirs farm to the Berea and it is showing for a fair gas well. The McCall Drilling Co. completed a test on the Boyce heirs farm in Clay district, Ritchie County, on the Hughes River. It was completed through the Injun sand, 1,858 feet, and is dry.

SOUTHWEST PENNSYLVANIA

There were four completions in Southwest Pennsylvania, one a fair gas well and the others small wells. In Perry Township, Greene County, J. B. Nuss and others completed a test on the David Lemley farm to the Big Injun at 1,949 feet, showing for a 2-bbl. pumper. In Wayne Township, of this county, H. D. Freeland and others completed a very fair gas well on the Silas Coen heirs farm. It was drilled to the Big Injun at 2,219 feet.

In Washington County, W. J. Cushing & Co. drilled a test on the Ralph Forney farm in Donegal Township to the Gas sand at 1,300 feet and it is showing for a light gasser. In Beaver County, J. L. Abrams completed a test on the Gery-ing farm, in South Beaver Township, to the Berea and it will make a small producer.

PITTSBURGH DES MOINES



Upper View—Standard PDM Oil Storage Tanks built for the Col-Tex Refining Company, Colorado, Texas.

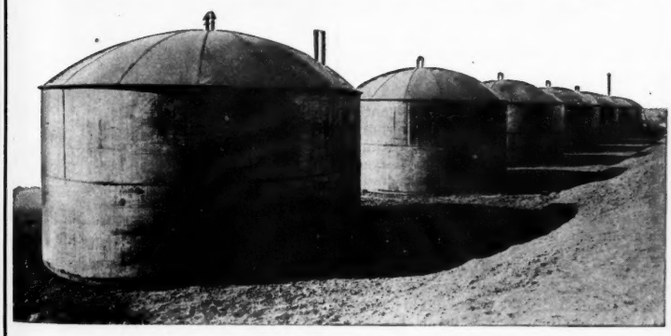
Lower View—PDM Spherical Gasoline Storage Tanks at the Baytown, Texas, plant of The Humble Oil and Refining Company. Capacity 2,500 barrels each.

TANKS OF PDM QUALITY

PITTSBURGH DES MOINES PDM TANKS PITTSBURGH

for the storage of

OIL and GASOLINE



A battery of PDM Umbrella Roof Tanks at Amarillo, Texas.

Two modern fabricating shops—one at Pittsburgh and one at Des Moines — facilitate quick shipments from stock and attractive bids on PDM tanks of standard design. Pittsburgh-Des Moines engineers will gladly cooperate with you in recommending the best installation for your particular needs.

Pittsburgh-Des Moines Steel Co.

13 Neville Island, Pittsburgh — 1225 Praetorian Bldg., Dallas — 915 Tuttle St., Des Moines

New York San Francisco Seattle Chicago Atlanta

BRINGS day to the night-shift

• ON THIS sewerage and water-system contract in New Orleans, the Fuller Construction Company used six Kohler Electric Plants to provide light for the night-crews. Good lighting resulted in better, faster work—the job done on time!

Kohler Electric Plants are being recognized as a necessary item of equipment in the many branches of engineering where distance or the nature of the work makes it impractical to link motors and lighting equipment with electric-light systems.

They generate current at 110 or 220 volts A. C. or D. C. Capacities range from 800 watts to 10 K. W. No storage batteries are necessary.

There are many different models—all portable, rugged, self-contained and easily adaptable to many varying needs. For a quick, unfailing supply of electric current *in isolated places*—also for emergency and reserve current in industrial plants—Kohler Plants will supply it more economically. Mail the coupon and we will be glad to send you information specialized to your needs. Kohler Company. *Founded* 1873. Kohler, Wis.—*Shipping Point*, Sheboygan, Wis.—*Branches in principal cities.* . . . Manufacturers of Kohler Plumbing Fixtures.

KOHLER OF KOHLER ELECTRIC PLANTS

KOHLER CO., Kohler, Wisconsin O & G Jrl.—9-4-30

Gentlemen: Please send catalog describing Kohler Electric Plants.

*Name*_____

*Street*_____

*City*_____ *State*_____

*Use in which interested*_____

Contracts taken for

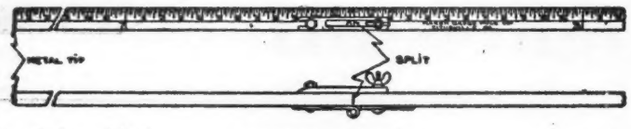
TORSION BALANCE
AND
MAGNETOMETER SURVEYS
in collaboration with
DONALD C. BARTON
Consulting Geologist and Geophysicist

GEORGE STEINER
SOLE AMERICAN REPRESENTATIVE:
Suss Torsion Balances
Eotvos Visual Rybar Automatic

Petroleum Building
Houston, Texas

GAUGE POLES

Any Length For Oil Measurements



"MARSH-JOINT"

For sale by oil country supply houses or furnished promptly by the factory at Titusville, Pa.

Correspondence Solicited

MARSH GAUGE POLE COMPANY
TITUSVILLE, PA.

VOLCO
the Paint that Defies HEAT
REG. TRADE MARK

Holzapfel's HEAT PROOF Protective

Two years exposure up to 1800 deg. Fahr. has not harmed VOLCO paint—it is absolutely incombustible!

Fusing at 400 degrees, VOLCO is thereafter impervious to heat, oil, water, gasoline or hydrocarbons. Recommended for stacks, boilers, furnaces or any steel surfaces subjected to intense heat. Prepared *ready-mixed* in Black and four colors. Covers 250 square feet per gallon.

Write for circulars, prices and test sample.

International Compositions Company Inc.
25 Broadway ~ ~ New York

Leases, Royalties, Production

are sold quickly, profitably, through The Oil and Gas Journal Classified Wants. Each week many of our classified users write us attesting to that fact.

Journal classified ads can get results for YOU. Send us a list of your holdings today, including as great a variety as possible so that a large number of readers may be appealed to. Oil companies and prospectors are looking for new acreage every day. You may have just what they want. Give them an opportunity to buy it from you by advertising now.

The Oil and Gas Journal
Classified Wants Department

CENTRAL WEST FIELDS

(Continued from Page 82)

to be similar to that found by the Siosi Oil Corp. some years ago almost directly west of the Martz well. The capacity of the Martz well has not yet been determined. Other important tests reported under way in Sullivan County are Ellis & Thomas' No. 1 Bert Wood farm, Section 5, Curry Township, and west of Farmersburg; G. G. Billman and others' test on the Sam Conner farm, Section 9, Turman Township, same county, and unknown parties are drilling on the John Lynch farm, near the mouth of Busseron Creek, same township. George W. Buff's test on his own farm, Section 4, Gill Township, same county, has not been heard from of late.

Vigo County

The Ohio Oil Co. is drilling No. 1 on the Mabel Prevo farm, Section 32, Prairie Creek Township, Vigo County, also drilling No. 3 W. C. Piety, same section. Siosi Oil Corp. is drilling No. 1 well on the division line between the Thompson and Riggs farms, also in Section 32.

Roger E. Williams and others are starting a test on the Mary Berg farm, northwest of the wells on the Carlton farm, in Huff Township, Spencer County.

Roger E. Kirkwood and others are reported starting a test in the vicinity of the hamlet of Leopold in Perry County, and Conyers, Roetzel and Bugg are drilling a second test on the Frank Cassidy farm, in Section 25, Clark Township.

While passing through Steuben County the past week, en route from western Indiana to Toledo, it was found that the wildcat drilled by the Cousins Oil & Gas Co. on the Hissong farm, near the town of Ashley, will hardly make a commercial showing. This well is reported to have tapped the top of the Trenton at 2,333 feet and went 67 feet in where both oil and water were found. This is the most northeasterly county in the State.

The wildcat of Henderson Brothers on the Loretta Sells farm, Section 10, Jackson Township, Randolph County, went 400 feet in the Trenton, and is a duster.

The recent find of a nice gas well by the Two Rivers Oil Corp. on the Jacob Buzzard farm, south of Huntington, in Huntington County, will eventually bring about the drilling of other tests for gas.

In the old Trenton Rock area of Indiana, the Flemwell Oil Co.'s No. 3 on the No. 2 J. M. Sutton farm, Section 16, Penn Township, Jay County, pumped 5 bbls. in 24 hours and No. 1, same farm, has been abandoned.

George S. Lacknett and others are drilling on the Marion Parr farm, Section 33, Blue Creek Township, Adams County.

George F. Edgington and others are drilling No. 4 on the J. W. Edgington farm, Section 14, Jackson Township, Jay County.

ILLINOIS

The important find in Illinois recently was a wildcat drilled by Sam Rayburn on the Ferdinand Keller farm, Sections 7 and 8, Collinsville Township, Madison County, near the division line between Madison and St. Clair Counties and northeast of East St. Louis and northeast from the Dupo Field of St. Clair County. The test is 1,000 feet from the north line and 2,300 feet from the east line of the lease, and produced 12 bbls. initial from 1,270-90 feet. This well looks like another active boom for St. Louis operators, not far removed from that city. The Trenton lime in which oil is found in the western portion of Illinois from Collinsville south, is shown to be deeper to the north of East St. Louis and very shallow in the southern part of St. Clair and Monroe Counties.

In St. Clair County, Sugar Loaf Township, the St. Clair County Oil Co.'s No. 3 well, 950 feet from the south line and 150 feet from the west line of the Fred Metler farm, SE, Section 34, pumped 20 bbls. initial from 702-44 feet.

Thomas Folks and others' test, 450 feet from the north line and 100 feet from the east line of the Sarah Crocker farm, SW, Section 12, Lakeside Township, Clinton County, was dry at 1,045 feet.

James Oil Co. abandoned Nos. 1 and 3 on the Lagewich and others' farm,

ARMSTRONG
Chain Pipe Tongs

Design
Big hardened steel bolt and nut hold jaws firmly to bar. Heavy forged-in lugs greatly increase bearing of jaws on handle and serve as chain guides, prevent jamming.

Handles
Handles are forged from high carbon steel. Have both stiffness and spring.

Jaws
Jaws are drop-forged from special steel, treated, hardened and tested for toughness and lasting qualities.

Chains
Each chain is *proof-tested* to 2/3 specified strength (1,200 lb. to 40,000 lb.). Each bears the Arm-and-Hammer seal, evidence of proven strength.

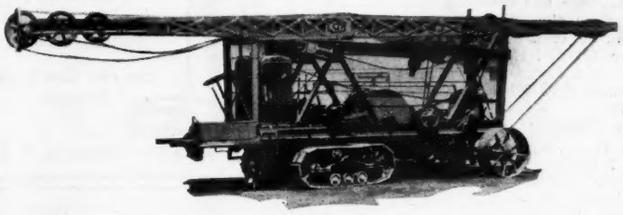
EXTRA strength—a positive safety factor for every emergency—these come with ARMSTRONG Chain Tongs. Though comparatively new in the oil fields, ARMSTRONG Drop Forged Tools have for 39 years been supreme in machine shops and tool rooms, over 96% of which use ARMSTRONG Tools. This standing has been built on a quality that you can know only by using an ARMSTRONG Tool.

Write for Catalog P-10, showing and describing a full line of improved tools.

ARMSTRONG BROS. TOOL CO.
"The Tool Holder People"
330 N. Francisco Av., CHICAGO, U.S.A.

The Keystone Driller Co.
Announces

TRADE MARK KEYSTONE REGISTERED U. S. PATENT OFFICE



NO. 9 ALL STEEL WIRE LINE SPUDDER

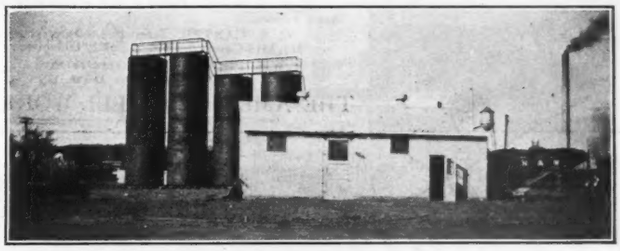
The new and improved features offered in this latest Keystone Spudder represent greater advancement in portable well drill design than have been realized in the previous ten-year period. Some of the outstanding features are:

1—ALL STEEL CONSTRUCTION.
2—DUAL CUSHION SHOCK ABSORBERS FOR WIRE LINE DRILLING.
3—CHAIN DRIVE THROUGHOUT.
4—ALL STEEL, SELF-RAISING DERRICK.
5—STEEL APRON WHEEL, HALF CRAWLER MOUNTING.
6—POWER UNIT—A SIX CYLINDER WAUKESHA OIL-FIELD ENGINE DEVELOPING 70 H.P. AMPLE FOR DRILLING, TRACTION AND PULLING TOOLS.
7—RAPID TRACTION ANYWHERE THAT A TRACTOR WILL GO.
8—SPUDDING DEPTH CAPACITY 3000 FEET.

Write or wire nearest office for literature and prices.

Keystone Driller Company
BEAVER FALLS, PENNA.
Offices and Warehouses:
Arlington, N. J. Birmingham, Ala. Waukegan, Ill. Joplin, Mo.

YOUR ENTIRE PROGRAM OF BULK PLANT CONSTRUCTION



Can Be Handled by Leader

You simply let one contract for 25, 50, 100 or more Complete Tank Car Stations to be built in a certain specified state or group of states.

Leader furnishes all equipment and handles all erection, including Tanks, Buildings, Piping, Fences, Plumbing, Driveways, Painting, etc. Leader turns over to you finished operating stations.

Write for your copy of "A Message to Managing and Departmental Executives."

LEADER IRON WORKS, INC.
2130 N. JASPER ST., DECATUR, ILLINOIS

PATRICK CARBON
FOR DIAMOND CORE DRILLING

CLOSE contact with the diamond drilling operations of many companies all over the world makes it possible for Patrick to grade on the practical basis of *drilling value.* Hence Patrick Carbon is economical and dependable. That is why it is preferred by experienced drillers everywhere.

A new edition of "Patrick Carbon," an authoritative discussion of the Diamond Core Drill and Black Diamonds, is just off the press. Send for a copy today—there is no obligation.

R.S.PATRICK
SELLWOOD BUILDING
DULUTH, MINNESOTA, U.S.A.
CABLE ADDRESS "EXPLORING" DULUTH

PETROLEUM

AND

TRADING

CORPORATION

CLASS A STOCK

BOUGHT—SOLD—QUOTED

CARL H. PFORZHEIMER & CO.

(Specialists in Standard Oil and Miscellaneous Oil Securities)

25 Broad Street New York, N. Y.

AMERICAN
AURORA, ILL.

The American Well Works manufactures a complete line of oil well pumping units. They are made in a wide variety of sizes permitting a length of stroke of from twelve to fifty inches. All gears are enclosed and run in a bath of oil. Used throughout the oil fields of the world. Catalogs and engineering data upon request.

C. S. CARTER, *Sales Representative*
711 Mid-Continent Bldg., Tulsa, Oklahoma
WM. PIERCE, *Sales Representative*
701 Elm St., Dallas, Texas

THE AMERICAN WELL WORKS
General Offices AURORA, ILLINOIS and Factory

Athey Truss Wheel Oil Field Wagons

Ideal for heavy duty behind tractors, either singly or in train. • • • Made in 10, 15 and 20-ton capacities for hauling heavy loads where transportation over soft ground is a problem. • • • • • • • Write for complete information.

ATHEY TRUSS WHEEL CO.
130 North Wells Street ... Chicago, U. S. A.
Cable Address: "Trusswheel, Chicago"
Foreign Representatives . . . Baldwin Locomotive Works, Philadelphia, Pa.

C. M. HEETER, SONS & CO., INC.
MAIN OFFICE AND WORKS, BUTLER, PA.

"Heeter's" Packers and Swabs

Heeter's Improved Patent Swabs, Corrugated Friction Sockets, Wire Line Pumping Outfits, Sand Pumps and other Gas and Oil Well Materials

LUFKIN

"ATLAS" TAPE

Accurate — Extra Heavy

Tapes and rules for every measuring requirement of the oil industry.

THE LUFKIN RULE CO.

SAGINAW, MICH.
WINDSOR, CAN. NEW YORK

Send for Catalog

NATIONAL PETROLEUM ENGINEERING COMPANY
Engineers & Geologists
TULSA OKLAHOMA

APPRAISALS
REPORTS-COMMERCIAL & TAX

SURVEYS
ESTIMATES OF OIL RESERVES

AN EXPERIENCED OIL FIELD ORGANIZATION

BE SURE OF A SURE SHOT

CALL OUR NEAREST SHOOTER

FUNDAMENTAL RESEARCH
is making us of
INESTIMABLE VALUE
to the producer
SURESHOT TORPEDO
(Incorporated)
Main Office, Huntington, W. Va.

SE, Section 4, Centralia Township, Marion County.

In the Allendale Field, Wabash Township, Wabash County, J. D. Toomey and others abandoned Nos. 6 and 7 on the Harrison Buchannan farm, NW, Section 10.

Skidmore and others' second test, 200 feet from the south line and 600 feet from the east line of the J. W. McCleve farm, NE, Section 3, Lawrence Township, Lawrence County, is not good for more than 1 bbl. at a depth of 1,000 feet.

In Crawford County, Prairie Township, the O. R. Oil & Gas Co. is drilling No. 7 William Akeman farm, Section 2. Watson and others are drilling No. 1 J. Umstodt, Section 12, and No. 4 Martin Newlin farm, Section 13, same township. In Oblong Township, the Niagara Oil Corp. is drilling No. 13 J. J. Apple farm, Section 8, and the Ohio Oil Co. is drilling No. 1 on the No. 2 Job Randolph farm, Section 14, same township.

COMPEL PURCHASE OF ALCOHOL

The German cabinet has issued a decree compelling importers and domestic refiners to take from the government alcohol monopoly a quantity of alcohol equivalent to 2½ per cent in weight of all gasoline imported or locally produced. The object is to improve the status of German potato growers. After March 31, 1931, the ministry of finance is authorized to increase the compulsory alcohol purchases. Gasoline imported duty free or with tariff reduction for certain purposes is not subject to the above provisions, and there are other exemptions.

The decree does not provide that purchasers under the new regulations must effect a gasoline-alcohol mixture, as the alcohol content in motor fuel must be greater. Monopolin, for instance, has a 25 per cent alcohol mixture, and a 2½ per cent alcohol content in motor fuel would be ineffective. The monopoly probably sold 20,000 to 25,000 tons of alcohol last year for motor fuel mixtures, and it is expected that the quantity will be increased this year. A 2½ per cent compulsory withdrawal will dispose of about 45,000 tons of alcohol.

TORBANITE IN NOVA SCOTIA

The Torbanite Products, Ltd., has been newly organized and commenced operations at New Glasgow, N. S., to extract oil and by-products from torbanite rock. The present capacity of the plant is 30 tons, producing from 50 to 150 bbls. of oil daily. By-products are said to include gasoline, fuel oil, and paraffin. The residue contains aluminum, silica, and carbon.

LEGAL

NOTICE OF SALE OF OIL AND GAS LEASE.
DEPARTMENT OF THE INTERIOR
UNITED STATES LAND OFFICE
Washington, D. C., July 17, 1930.

Notice is given that the following described lands in two units in Pawnee County, Oklahoma, are offered for sale under section 17 of the leasing act of February 25, 1920 (41 Stat. 437), at the royalty rates for oil and gas and in accordance with the drilling requirements fixed in the standard lease form, copy of which may be procured from the Commissioner of the General Land Office:

Unit No. 1—
T. 20 N., R. 9 E., Sec. 35, lot 2 (13.40 acres).
Unit No. 2—
T. 20 N., R. 9 E., Sec. 35, lot 3 (12.05 acres).

Offers may be submitted on each unit and on the combined units, each unit to be considered separately as to drilling requirements and royalty rates.

The sale will be held at 10:00 a. m. on 10th day of September, 1930, at the office of the U. S. Geological Survey, 411 Wright Building, Tulsa, Oklahoma, and the successful bidder will be required to deposit on the date of sale one-fifth of the bonus bid by certified check on a solvent bank, or cash.

The bidders are warned against violation of the provisions of section 59, U. S. Criminal Code, approved March 4, 1909, prohibiting any unlawful combination or intimidation of bidders.

The right is reserved to reject any and all bids in the discretion of the Secretary of the Interior.

(Signed) C. C. Moore,
Commissioner.

Air Line Mask
With or without Blower.
Mask and Blower in separate cases.
Safety Gas Main Stopper Co.
523 Atlantic Ave., Brooklyn, N. Y.

ARTHUR C. BROWN
Solicitor of United States and Foreign Patents
914-915 Kennedy Bldg.
TULSA, OKLA.
Mr. H. H. Twente
Resident Assistant
Phone 4-2319

Chester W. Washburne
Geologist and Engineer
149 Broadway, N. Y.

TEXAS OIL MAPS
County and District Catalog on Application
HEYDRICK MAPPING COMPANY
Wichita Falls, Texas

J. D. THOMPSON, JR.
CONSULTING GEOLOGIST
Specializing in the Texas Panhandle and Adjoining Territory
Office Phone: 2-1623 Residence: 4957
Amarillo National Bank Bldg.
AMARILLO, TEXAS

NEW OIL MAPS
Texas and Oklahoma Panhandle and Eastern New Mexico.
SEARS MAP & BLUE PRINT CO.
Amarillo, Texas

L. S. PANYITY
PETROLEUM GEOLOGIST
VALUATION ENGINEER
Analysis of core or drill-cuttings for porosity, saturation, grain-size and permeability.
66 Main Street
BRADFORD, PA.

JOHN EOGHAN KELLY
Consulting Engineer
Petroleum — Natural Gas
Examination—Consultation—Management
17 Battery Place, New York City
Union Trust Bldg., Charleston, W. Va.
Pasaje Coloma 6, Guatemala, Guatemala, C. A.
Cablegrams: Ceallach, New York

PATENTS *Write for Free Book*
MUNN & CO.
Associated since 1846 with the Scientific American
514 Scientific American Bldg., *Washington, D. C.*
1551 Scientific American Building,
24 West 40th Street, *New York City*
1303 Tower Building, *Chicago, Ill.*
656 Hobart Building, *San Francisco, Calif.*
511 Van Nuys Bldg., *Los Angeles, Calif.*

FELIX A. VOGEL
Consulting Engineer and Geologist
The Vogel Geophysical Method of Locating Gas, Oil and Mineral Deposits
DOLGEVILLE, N. Y.
Tel: Dolgeville 101 *Cable:* Felixvogel

Always Renew Your Subscription Promptly

Low Pressure Regulation

Pressure regulation at the Sinclair Plant, Garber, Okla., is effected with this duplicate set of Fulton Low Pressure Regulators, with automatic cut-off. Our improved style of valve makes a perfectly tight joint, thus preventing any increase of pressure on the low side when the consumption is light or entirely shut-off; and being perfectly balanced, it is not affected by the variations of pressure that may occur on the inlet side. Made in all sizes up to 24 inch.

Write for catalogue giving full information on this and other types of gas pressure regulation equipment.

THE CHAPLIN-FULTON MFG. CO.

28-40 Penn Avenue **Pittsburgh, Pa.**

CF

Oil Refineries

all over the world use Coppus Blowers and Steam Turbines for recirculating flue gas in the

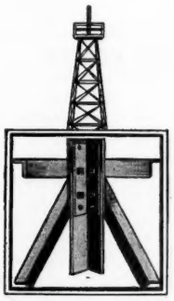
Cracking Process

Write for Bulletin 120 on Oil Refinery Equipment

The new Coppus Hot Gas Blower, Steam-Turbine Driven

Coppus Engineering Corporation
343 Park Ave., Worcester, Mass.

WASHINGTON STRUCTURAL STEEL DERRICKS



1-5th the up-keep

MANY TIMES THE LIFE

The estimated average up-keep on a Washington Structural Steel Derrick does not exceed $25.00 per well per year. This consists of painting and replacing a few ordinary machine bolts. For the first few wells, the salvage value is just about 100%. After many years of service, the salvage value will be affected but deterioration is generally very slow.

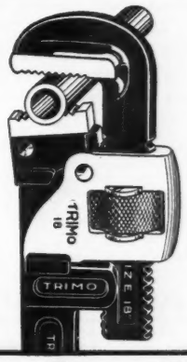
Two dozen deep wells with a single Washington is not unusual service for these rigs. They are as permanent as it is possible to make them.

Rugged, fireproof, windproof, easily erected and dismantled. Their first cost is somewhat higher than for wooden structures, but they pay a much higher return on the investment.

Scientific design and patented double-spliced, super-strong joints give these derricks super-rigidity. *Write for newest catalog!*

O'BRIEN STEEL CONSTRUCTION CO., INC.
WASHINGTON, PA.

Western Representative:
Rig Equipment Company
1524 So. St. Louis Street
Tulsa, Oklahoma



Strength - Safety

TRIMO's leadership in the oil fields is based on no trick claims, no flash in the pan wave of popularity.

Strength and safety have made TRIMO first choice. The handle is drop forged not cast — and heat treating gives the extra toughness to stand terrific strain.

TRIMO is made throughout by a company pledged for over forty years to fine tool making.

TRIMONT MFG. CO., INC., Roxbury (Boston), Mass.

TRIMO

TRIMO
Pipe Wrench